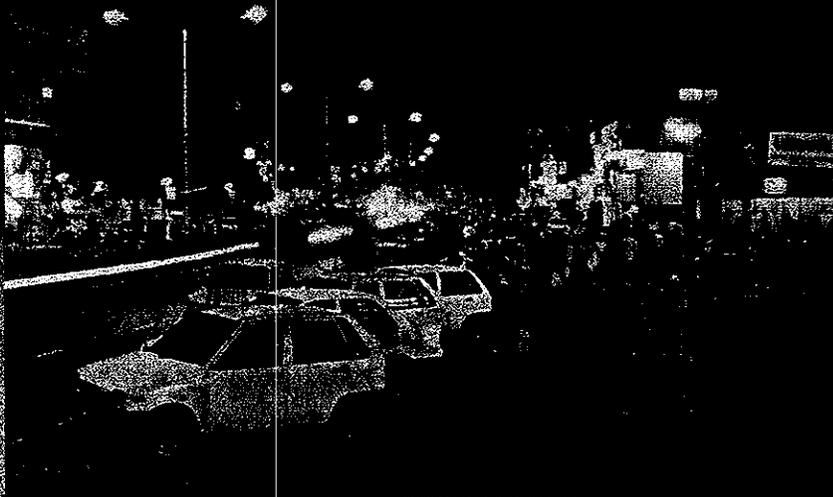


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Best Practices Catalogue

September - 1999
Local Bodies of Gujarat

Ahmedabad
Surat
Vadodara
Rajkot
Bhavnagar
Jamnagar
Porbandar
Anand
Navsari
Gandhidham
Himmatnagar
Valsad
Vyara



City Managers' Association, Gujarat
Ahmedabad

Best Practices Catalogue

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Himmatnagar

Valsad

Vyara



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FORWARD

I am indeed happy that the City Manager's Association (Gujarat) has brought out the Best Practices Catalogue for urban local bodies. This is the first effort of its kind in this sector, and I am sure that the Catalogue will set in place an important trend in urban governance.

Over the years, the urban local bodies have grown in stature and in their spheres of influence. At the same time, they have tended to remain islands, where excellent practices have at times evolved but have remained confined to the Municipality or Municipal Corporation. This effort is meant to encourage replicability of best practices through widespread dissemination of information.

The City Managers' Association (Gujarat) has emerged as a premier institution for the professional development of urban city managers. It has succeeded in restoring the prestige of the urban city manager, as one who is called upon to spearhead urban development in our often difficult environment of wide infrastructural gaps, constrained resources and widespread expectations.

I wish the Best Practices Catalogue all success and I hope that in the years to come this compilation will grow in size. I am also confident that it can go a long way in enabling other urban local bodies to adopt these practices wherever possible.

(Dr.) Manjula Subramaniam

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Acronyms

AEC	Ahmedabad Electricity Company
AMC	Ahmedabad Municipal Corporation
AUDA	Ahmedabad Urban Development Authority
BADA	Bhavnagar Area Development Authority
BLP	Best Local practices
BMC	Bhavnagar Municipal Corporation
BP	Best Practices
BPMC	Bombay Provincial Municipal Corporation Act
EWS	Economically Weaker Section
CA	Chartered Accountants
ft.	Feet
GEB	Gujarat Electricity Board
GIS	Geographic Information System
GMFB	Gujarat Municipal Finance Board
GPH	Gallons Per Hour
GWSSB	Gujarat Water Supply and Sanitation Board
HIG	High Income Group
HP	Horse Power
HUDCO	Housing and Urban Development Corporation
ICWA	Institute of Cost and Works Accountants
IDSMT	Integrated Development of Small and Medium Towns
JADA	Jamnagar Area Development Authority
JMC	Jamnagar Municipal Corporation
LIC	Life Insurance Corporation
LIG	Low Income Group
m	Meter
MBA	Master of Business Administration
MIG	Middle Income Group
MW	Mega Watts
NGO	Non Government Organisation
PHC	Primary Health Center
PVC	Poly Venyl Chloride
RMC	Rajkot Municipal Corporation
Rs.	Rupees
RUDA	Rajkot Urban Development Authority
SCI	Sustainable Cities Initiative
SEWA	Self Employed Women's Association
SJSRY	Swarna Jayanti Shahri Rojgar Yojna
SMC	Surat Municipal Corporation
SNP	Slum Networking Project
Sq km	Square Kilometer
SUDA	Surat Urban Development Authority

SWM	Solid Waste Management
TP	Town Planning
TPD	Tons Per Day
UCD	Urban Community Development
UDD	Urban Development Department
UHC	Urban Health Center
UNCHS	United Nations' Center for Human Settlement
USAID	United States Agency for International Development
VUDA	Vadodara Urban Development Authority

Persons contacted and interviewed

Ahmedabad Municipal Corporation

1. Mr. B.K. Sinha, IAS, Municipal Commissioner
2. Mr. M.K. Das, IAS, Dy. Municipal Commissioner
3. Mr. P U. Asnani, Advisor to Commissioner
4. Mr. P.A. Dikshit, Dy. Municipal Commissioner
5. Mr. D.B. Makwana, Dy. Municipal Commissioner
6. Mr. G.M. Khalsa, Dy. Municipal Commissioner
7. Mr. Pradeep K. Roowala, Dy. Municipal Commissioner
8. Mr. Utpal Padia, Assistant Municipal Commissioner

Ahmedabad Urban Development Authority

1. Mr. R.S. Patel, Chief executive authority
2. Mr. M.M. Bhoumik, Senior Town planner
3. Mr. Himanshu Thakkar, Town planner

Surat Municipal Corporation

1. Mr. Jagdeeshan, IAS, Municipal Commissioner,
2. Mrs. Dordi, PA to the Commissioner
3. Mr. A. M. Mehta, Dy. Municipal Commissioner
4. Dr. I. C. Patel, Dy. M. C. (Health)
5. Mr. Jeevan Patel, Senior Town Planner
6. Mr. K. C. Mehta, Chief Account,
7. Mr. Debashish Basak, Town Planner
8. Mr. R. D. Desai, Town Planner
9. Mr. P. C. Shai, Adviser,.

Bhavnagar Municipal Corporation

1. Mr. H. A. Badi, IAS, Municipal Commissioner,
2. Mr. M.C. Mehta, Chief additional engineer,
3. Mr. M. S. Modi, Dy. Municipal Commissioner
4. Mr. H.M. Pandya, Executive engineer, Lighting dept.,
5. Mr. R.G. Bhatt, Deputy Engineer, water works dept.,
6. Mr. G.V. Danger, Octroi superintendent
7. Mr. Jhaladia, In-charge /slum improvement scheme
8. Mr. Chaniyar, EDP manager, computer dept.,

Bhavnagar Area Development Authority

1. Mr. S. K. Dave, Chairman,
2. Mr. Vyas, Town Planner,
3. Mr. Patel, Incharge, Draft development plan
4. Mr. N. A. Vaghela, Additional commissioner,
5. Mr. Sarveyya, Engineer,

Jamnagar Municipal Corporation

1. Ms. Sunaina Tomar, IAS, Municipal Commissioner
2. Mr. Dilawar Singh Sodha, P.A. to Commissioner
3. Mr. Mukesh Kumbharana, Assistant Municipal Commissioner

Jamnagar Area Development Authority

Mr. Ajit Singh Jhala, Chief Executive Officer,

Porbandar Municipal Corporation

1. Mr. M.D. Vithalani, Chief Executive Officer,
2. Mr. Trivedi, PA to Chief Executive Officer

Rajkot Municipal Corporation

1. Mr. Rajgopal, IAS, Municipal Commissioner
2. Mr. P.P. Vyas, Dy. Municipal Commissioner
3. Mr. N. H. Vaghela, Additional City Engineer
4. Mr. P.L. Jivrani, City Engineer Incharge
5. Mr. Deepakbhai Rawal, Deputy Executive Engineer
6. Mr. P.B. Parmar, Deputy Executive Engineer
7. Mr. R.N. Bhatti, Deputy Executive Engineer
8. Mr. M. S. Gohil, EDP Manager
9. Mr. P.J. Awalani, Tax Officer
10. Mr. Vinashbhai Roar, Assistant Manager
11. Mr. Harishbhai Rupalalia, Assistant Manager
12. Mr. Vasantiben Prajapati, Assistant Manager

Vadodara Municipal Corporation

1. Mr. G.R. Aloria, IAS, Municipal commissioner
2. Mr. Ravikant Joshi, Chief Accountant
3. Mr. Bhailal Bhai, PA to Commissioner

Vadodara Urban Development Authority

1. Mr. G.J. Chapaneri, Chief Executive Officer
2. Mr. Paritosh Shah, Chief Town planner

Anand Municipality

1. Mr. Babubhai Patel, President
2. Mr. Bhupendrabhai Patel, UCD, Program

Halol Municipality

Mr. Kothari, Chief Executive Officer

Vyara Municipality

Mr. M.N. Soni, President

Valsad Municipality

1. Mr. Ketan Desai, Chief Executive Officer
2. Mr. Praveenbhai Desai, Executive Engineer

Navsari Municipality

Mr. Raju Gupta, Municipal Engineer

Himmatnagar Municipality

1. J. D. Patel , President
2. Bharat bhai Rawal, Chief executive Officer

Gandhidham Municipality

Mr. V.R. Parikh, Municipal Engineer

Mandvi Municipality

Mr. Tilak Shastri, Chief Executive Officer

Dehgam Municipality

Chief Executive Officer

Directorate of Municipalities

Mr. Vyara, ex-Director, Directorate of Municipalities

Gujarat Municipal Finance Board

Mr. M. M. Mehta,
Chief Executive Officer, Gujarat Municipal Finance Board

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Part I
Best Practices Overview

Introduction

1.1 The Challenge of Managing Our Cities

Most of the cities in the world are facing problems of urban management. An estimate says that by the year 2001, the population of urban areas will be 3.3 billion. Over ninety percent growths in urban population will take place in the cities of the developing countries. In India itself it is estimated that more than 95% of the population increase will occur in the cities. This tremendous and exploding growth in urban population demands a serious effort to plan good quality of services for better living environment through professional urban management.

In the past few years the cities have witnessed significant improvement in the provision of infrastructure but infrastructure development has not been able to keep pace with population growth in Indian cities. Physical, health and social infrastructure provided in the cities is highly inadequate. Haphazard growth of slum, problems of health and environmental degradation, social unrest, etc. are the inevitable outcome of such a situation.

Cities are the engines of economic growth. If urban infrastructure is well laid and congenial atmosphere is created for trade, commerce and industry, the cities will excel and compete adding to the prosperity of the nation through employment generation, productivity and economic development.

Local bodies have to play a vital role in enabling the cities to grow through provision of adequate infrastructure, professional management and policies and procedures, which facilitate rapid development. The local bodies are faced with the uphill task of managing the cities having scarcity of financial resources, lack of knowledge and, in-house capacity to deal with the problems of urban governance. Information crisis and lack of endeavors to take innovative steps, is aggravating the situation. Existing tools for urban development have been largely inadequate.

Harmony between political and administrative decision-makers is vital which is generally lacking in the country. The roles and responsibilities of the elected wing vs. administrative wing are not clearly defined. There are conflict of interests and over stepping of their respective roles is a common experience resulting into disharmony and consequent deterioration in services.

1.2 Need for innovation

Even within the limited in-house and freedom to work, some city managers are taking a initiatives measures to sustain the development and improve the quality of life in the city. Some of their initiatives have given remarkably good results. Some efforts have failed as well due to various reasons.

Which are the initiatives that have succeeded and other not?

A close look to the successful efforts made by various cities can lead to probable solutions of the problems that our cities are facing. These success stories should be discussed, improved according to need and adopted to tackle the problems of local bodies.

1.3 Sharing the innovations

In India most of the growing cities have similar issues to address such as lack of finance, water shortage, inadequacy of drainage facility, inefficient solid waste management, growth of slums, problems of health and sanitation, degrading infrastructure, etc. Similarity of the problems make it necessary to think about common solutions to these problems.

Some cities have taken initiatives and successfully solved the problems of the city. But they are not even know to the neighbouring cities facing identical problems due to lack of exchange of information. If best practices adopted by one city can be replicated elsewhere, similar results can be reaped in other cities. It will also encourage local bodies to evolve new ideas leading to the setting of new paradigms for effective urban governance and efficient urban management.

City managers should share their experience with others to achieve the above goal. Discussions, workshops, seminars, etc., facilitates such exchange of ideas. But for such dissemination of information on regular basis there is the need of a platform. There was a felt need for the cities to group together and have a common forum for learning from each other's experience.

City Managers' Association is such a forum in Gujarat.

1.4 City Managers' Association, Gujarat

The City Managers' Association Gujarat (CMAG) has been set up with the intention of providing support to the city governments in tackling the complex problems of urban governance by building their in-house capacity through exchange of information, knowledge, etc. It also seeks to give recognition to the role of urban managers and need for their specialized training. As a forum, it seeks to articulate city governments' concerns to the higher levels of government.

The broad objectives of the organization are:

Information Exchange and dissemination on urban issues, best city management practices, technologies, cross country management experiences through publications (newsletters, manuals, and books), workshops, seminars and audio-visual media.

Training Skill Upgradation for professional development through workshops, seminars, short training programs and overseas training

Advocacy, by raising the sensitivity of state and central governments to urban issues

CMAG is an ideal platform for sharing information. After two years of its inception it has conducted various workshops and seminars dealing with the issues of urban governance. The problems of public grievancés redressal system, maintenance of

water supply and other infrastructure, Citizen's charter, and improving resource base for the city.

The newsletter published by the CMAG gives opportunity to municipal officers to express and share their views. CMAG has taken an initiative of recording best practices for the benefit of the cities within and outside the State of Gujarat.

Best Practices Catalogue

2.1 The purpose of this Catalogue

The purpose of recording best practices is to learn about the innovative measures taken by the urban local bodies in tackling their problem successfully and document those experiences and use the same for exchange of innovative ideas. Best Practices catalogue -is the first step of the City Managers' Association, Gujarat in the direction of disseminating the Best Practices. The book has three objectives:

- To make cities aware of the success stories of other cities and proven solutions.
- To promote transfer of knowledge, expertise and experience derived from Best Practices through learning, transfers and co-operation.
- To develop and disseminate effective learning tools and processes.

The catalogue is primarily written for those working in local bodies. It will also provide a useful information to those who are involved in the urban programs.

2.2 Selection and Documentation of the Best Practices

Some local authorities in Gujarat, big and small, have taken a lot of initiatives and successfully tackled serious problems of urban management at. An endeavour is made for the identification and the documentation of such work done in six municipal corporations, six urban development authorities and ten municipalities of the state who have reportedly done some innovative work in one or the other field

The six major cities of the Gujarat - Ahmedabad, Surat, Vadodara, Rajkot, Bhavnagar and Jamnagar were selected for documentation because of their size and dynamism in urban governance. Surat has won the Best Practices award in Dubai in the year ★... while Ahmedabad was given recognition for best practices under the Best Practices and Local Leadership Programme (BLP) of United Nations Centre for Human Settlements (UNCHS).

Gujarat has one hundred and forty three municipalities. To identify the municipalities that have best practices to share, letters were sent to all of them inquiring about the innovative works done by them. Simultaneously Director of Municipalities and CEO of Gujarat Municipal Finance Board were contacted to suggest the names of municipalities, which have done some innovative work. Based on their recommendations ten municipalities were chosen. These are Porbander, Anand, Navsari, Gandhidham, Himmatnagar, Mandvi, Halol, Dehgam, Valsad and Vyara.

Documentation of the Best Practices of the selected local bodies involved the following stages:

- Literature review of the international and national experiences in Best Practices documentation.
- Formulation of two questionnaire -First one for collecting basic information on the city and for identifying the best practices of the city. Second one for detail documentation of the specific best practices.
- Visits to the cities. The Municipal Commissioner / Deputy Commissioners, City engineer, Departmental Heads and several other officers were interviewed in the municipal corporations. In Urban development Authorities, Chairman, CEO, Chief town planner, Engineers etc. were contacted. At municipalities, President, Chief officer, and municipal engineers were interviewed.
- Compilation of all the information in one format.

2.3 Using the catalogue

The catalogue has two parts. First part is a comprehensive introduction to the Best Practices. Second part contains city wise Best Practices. The Best practices under the head of six major cities contain the practices of Municipal Corporations and the Urban development Authorities.

In the beginning of the book, an index of best practices with their page numbers is provided. The readers who are interested in the specific best practices can refer to the key words given against them.

Each Best Practice is elaborated in the following parts

- **Situation before the initiative**
- **Strategy adopted**
- **Results achieved / anticipated**
- **Sustainability**
- **Lessons learned**
- **Transferability**

It is envisaged that the municipal officers, urban managers will find this document useful. It will give them an insight to tackle similar problem faced by them and would encourage them to take innovative measures to find solutions for the variety of problems encountered by them from time to time.

Contact addresses of the organizations having taken innovative measures are given in the annexure. Addresses of the organisations working on Best Practices, nationally and internationally are also given.

Part II
Best Practices in the Cities of Gujarat

Ahmedabad

City Profile

Best Practices of the Ahmedabad Municipal Corporation (AMC)

1. Financial turn around of Ahmedabad – Intensive multi-prongue drive to increase octroi and property tax collection
2. Property tax reforms – area based system
3. Issuing of municipal bonds for Infrastructure development
4. Public private partnership – in all the spheres of urban governance
 - a) Street improvement partnership
 - b) Development of parks and gardens
 - c) Slum networking project
 - d) Urban forestry or green partnership
5. Professionalism in administration – recruitment of the professionals in the corporation
6. Energy saving initiatives of the AMC
7. Initiation of heritage walk in the city
8. Solid waste management
9. Introduction of the double entry accounting system
10. Supporting sanitation facilities in private housing societies and chawls, having houses smaller than 70 sq. yards
11. Improving sanitation in urban slums through provision of individual toilets
12. Decentralization of Administration

Best Practices of Ahmedabad Urban Development Authority

1. Strategic partnership of AMC and AUDA for comprehensive sewage and sewerage disposal system of west AUDA area
2. Recharging ground water through the development of Vastrapur lake
3. Successful redressal to the objections and suggestion by public in the development plan preparation process

Ahmedabad

Ahmedabad is the largest city in the state of Gujarat and the seventh largest city in India. It is the commercial capital of the state. The first settlement was known as Karnavati established by Karandev Solanki in 11th century. Ahmed Shah Badshah established the present city in 1411. The city was under the rule of Marathas, Mughals and British in different periods.

The city's development was from the establishment of textile mills in 1857. Textile industry was the backbone of its economy till two decades back. Today Ahmedabad is a major industrial and financial city contributing about 14% of the total investments in all stock exchanges in India and 60% of the total productivity of the state.

Location and linkages

Ahmedabad is situated on the banks of river Sabarmati. The city is 35 km away from Gandhinagar, the capital of Gujarat and lies at the upper end of 'Golden Corridor'. It is well linked by state and national highway to the other areas of the country. It is a terminus railway station. The city has a national and an international airport.

Demographic Profile

The population of Ahmedabad agglomeration is nearly 40 lakhs whereas population of the city within the AMC limit was 28.75 lakhs as per 1991 census and it is estimated to be 33 lakh now. and that of AUDA was 39 lakhs in 1991. The area of the AMC was 190.84 in sq. km. in 1991. It is estimated that by the year 2011, the population will become 46 lakh in AMC and 74 lakhs in the agglomeration.

The AMC is divided into forty three wards. The inner core area of the city is small in size but is densely populated. The density of the population in 1991 varies between 6,255 persons/ sq. km. and 92,882-persons/ sq. km. From 1991 the densities of the inner old area is reducing; while the new areas are showing the sign of development.

Major Industries and Institutions

Major industries in and around Ahmedabad include the Arvind Textile Mills, Ashima Industries, Reliance Textiles, Torrent Pharmaceuticals, CoreHealth care, Core Emballage, Cadilla Pharmaceuticals, Mardia Chemicals, Indectrotherm Industries, and Nirma Group of Industries, Syntax Industries, etc.

Ahmedabad has several institutions of national and international repute. They are: Indian Institute of Management, National Institute of Design, Center for Environment Planning and Technology, Physical Research Laboratories, Space Application Centre (ISRO), Center for Environmental Education, Gandhi Labor Institute, Sardar Patel

Institute for Economic and Social Research, Entrepreneur Development Institute (EDI) Center for Development Communications and Institute of Plasma Research.

City development

The city of Ahmedabad started growing from a small settlement on the eastern banks of Sabarmati. The walled city of Ahmedabad flourished during the rule of Sultan Ahmed Shah. Street patterns and the settlement was typical to the climatic and social characteristics. The city municipality was given the status of Municipal Corporation in 1950. When the city started growing rapidly eastwards and southwards. In the later part of the century, the western part has developed rapidly.

The city is governed by Ahmedabad Municipal Corporation, which was established in July 1950. It is a huge organisation with over 40,000 employees. Unlike many other corporations, it provides a number of urban services such as water supply, roads construction, sanitation, medical services, primary education, Solid Waste Management, city transport, public health centres, etc. The corporation levies property tax and octroi duty to manage and improve the services. The city is known for a lot of innovations in the urban governance because of the efforts of AMC.

AUDA was constituted under this act in 1978 to regulate and monitor the development in the periphery of the corporation limits and the adjoining 300 villages and 9 municipalities. The major functions of the authority is to undertake the preparation of the development plan, town planning schemes, regulate the development and charge the development charges in the area of its jurisdiction.

Best practices of the Ahmedabad Municipal Corporation (AMC)

1. Financial turn around of Ahmedabad – intensive multi-prongue drive to increase octroi and property tax collection

Prior to 1994-95, AMC was a loss making urban local body. It was making cash loss each year for about a decade resultant effect was accumulated cash losses of Rs. 35 crores and bank overdraft to the extent of Rs 22 crore. AMC took extensive measures to improve the finances from November 1994, which resulted in financial turn around. The city corporation could wipe off the cash losses in just five months and cleared all overdrafts and became a surplus city by the end of 1994-95. In 1995-96 a surplus of 60 crores and in 1996-97 a surplus of 70 crores was registered by the corporation which helped in leveraging large funds from financial institutions for capital projects.

Situation before the initiative

Ahmedabad Municipal Corporation derives its revenues from both tax and non-tax sources. Tax revenue has remained the primary source of income and constitutes around 80% of the total revenue of the AMC.

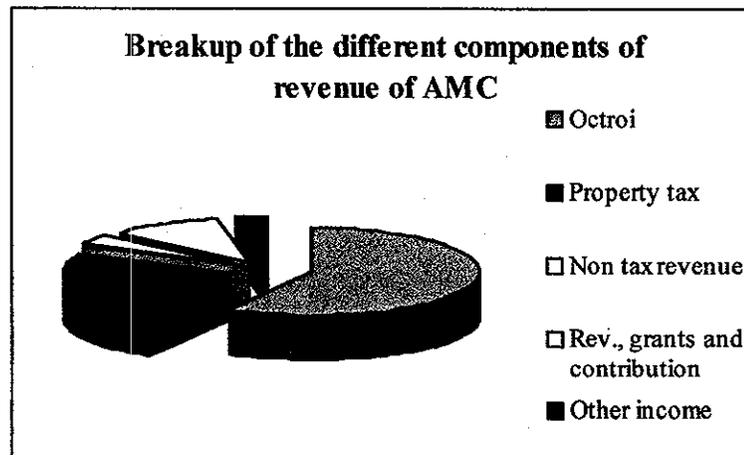


Fig. Breakup of AMC's revenue income
Source: AMC, 1998

The tax revenues mainly consist of octroi duty and property tax. Octroi duty is by far the most important revenue source of AMC, 70% of the tax revenues comes from octroi duty whereas rest 30% comes from property taxes which include general tax, water tax and conservancy tax.

There was a severe resource crunch for nearly a decade till 1993-94, resulting in accumulated cash losses of Rs. 35 crores and overdraft of Rs. 22 crores. There appeared no way to find new sources of income nor was it possible to depend on government grants. This made AMC to focus attention on revenue realisation methods. The commissioner in a meeting of senior officers of the AMC reviewed all

the aspects of increasing the revenue. The only way found suitable for augmenting the revenue was to plug leakage in the octroi collection and made efforts to increase recovery in the property tax collection.

To work out a strategy of plugging leakage in octroi duty, it was decided that all the senior officers of the corporation including deputy municipal commissioners and heads of departments will devote one full day, from 6 A.M to 12 midnight on the filed and get the feel of the efficiency of the octroi collection system and suggest improvements in the system. This one-day effort of officers opened the eyes of the administration.

Octroi

Major deficiencies noticed in the octroi collection system:

The following major deficiencies were noticed in the octroi collection, which led to significant leakage in collection of revenues:

- Traders were by and large under invoicing the goods and submitting false documents showing low value and less number of articles at the octroi check post.
- The octroi check posts did not have updated information of market rates of the goods entering the city. They were carrying out the valuation on the basis of outdated valuation books.
- There was a lot of corruption.
- A number of "Mafia gangs" were operating in the city-who were threatening the officers.
- There was poor surveillance

Strategy adopted

On the basis of feedback received the situation was carefully analyzed and an action plan to curb octroi evasion was formulated by the commissioner within three days of the site visits. The octroi department was directed to implement the plan immediately. The measures employed for improving octroi duty collection included the following:

All the outdated valuation books were updated with the help of hired cost accountants and revised schedule of rates based on the current market situation was circulated in all the octroi check posts.

Random physical verification of 0.5-1% of the total vehicles was taken up to ascertain whether proper invoicing and valuation is shown in the documents submitted at the octroi check posts. This gave signal to the people who were under invoicing the goods to behave and heavy penalties were imposed on those, who tried to deceive the corporation. The fear that any vehicle can be intercepted, checked and put aside for couple of days increased discipline among the traders.

Help of the local police was taken to curb the activities of Mafia gangs and anti social elements who were active in octroi evasion.

System of backtracking of the goods was introduced where the godowns were checked and the traders were asked to show whether octroi is paid on the goods kept in the godowns. Heavy penalties were recovered from those who were found evading octroi duty. Three years accounts of goods imported and octroi paid were checked.

Strict action was taken against the corrupt and negligent employees.
 Formations of 13 vigilance squads to intercept the vehicles and verify whether correct octroi duty was paid and to keep vigilance on the working of the check posts.
 Establishment of a market research wing to update data bank on prices continuously.
 Linking all the octroi check posts with a wireless network to facilitate 24-hour communication and increased co-ordination.
 On-line computerisation at octroi check posts with linkage to head office.

Results achieved

- Octroi collections of Rs. 30 lacks per day showed significant jump to Rs. 45 lack per day within one week of the efforts made and to Rs. 60 lacks per day within one month. The octroi recovery stabilised to Rs. 60-65 lacks per day, registering an increase of 100% in the octroi collection each day.

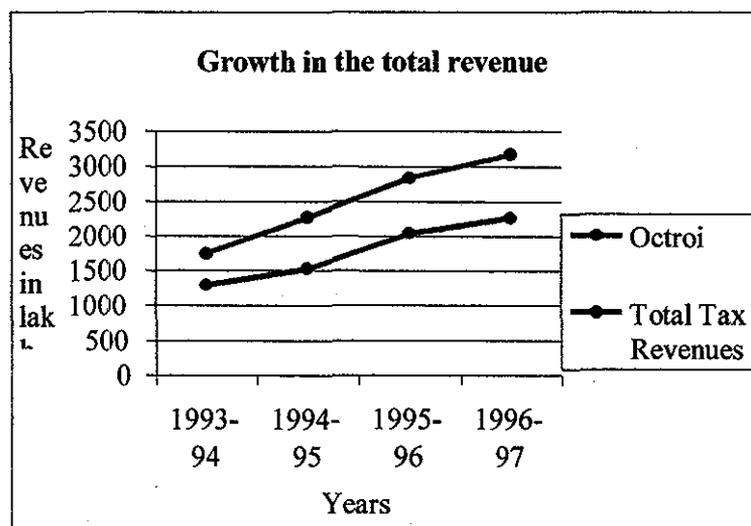


Fig. Growth in total revenue
 Source: AMC

- All the overdrafts and cash losses of the AMC, which had accumulated over a period of ten years, were wiped off within five months by the end of year 1994-1995.
- AMC's net octroi revenue increased from Rs. 129.6 crore in 1993-94 to Rs. 153.1 crore in 1994-95.

Sustainability

The measures taken for sustaining the drive are as follows

Constant vigil to be exercised

Induction of professionals such as MBAs and ICWAs etc in the revenue department at the octroi check posts as assistant managers and senior valuation officers.

Octroi recovery situation is reviewed daily by the Municipal commissioner and deputy commissioner and corrective measures taken.

Training program for the officers of the octroi check posts are arranged and updated information showing the market rates of the goods are also distributed amongst them regularly.

A permanent police squad is provided to the octroi department to help enforcement.

Lessons learned

Local bodies have poor financial management, which can be improved substantially by:

- Setting the house in order (improving the administration)
- Plugging the leakage and corrupt practices
- Sustaining the effort by fixing bench marks and regularly monitoring the performance

Transferability

All urban local bodies that depend significantly on octroi duty can consider taking similar measures.

Property tax

Situation before the initiative

Property Tax accounts for nearly 30% of the total tax revenues of AMC. Section 127 (1) of the BPMC act empowers the corporation to levy property tax on all the buildings and land within its jurisdiction. The property tax is levied on the basis of annual ratable value of the property.

The collection of property tax in Ahmedabad was relatively poor due to large number of litigation cases, poor efforts to collect the taxes and unfair as well as non-transparent property tax structure.

The Ahmedabad Municipal Corporation rigorously finished the cases pending in the high courts and other courts and got a decision in its favour and soon thereafter intensified the drive to collect the taxes for improving the overall financial condition. Analysis of the situation prevalent at that time showed the following:

There were a large number of tax defaulters

There were a number of court cases against AMC, which were blocking the revenues of the corporation

The enforcement was poor

Strategy adopted

In 1994 the Ahmedabad Municipal Corporation introduced a series of measures to improve property tax collection. These measures included:

1. Tracking the defaulters
 - Computer database was utilised for identifying the defaulters. List was made in the descending order of the amount of tax outstanding

- Focussed attention to recover the dues from the top defaulters
 - Disconnection of water supply and drainage lines of the defaulter's premises
 - Attachment and lifting of movable properties from the premises of the defaulters for recovery of taxes
 - Issue of notices and warrants in very large number for payment of property tax
 - Attachment of immovable properties of major defaulters
 - Advertisement for auction of property for recovery of taxes declaring the names of major defaulters in the newspapers
 - Setting up of vigilance team to trace hidden properties as well as undervalued properties
2. Settling the court cases and public complaints
- All the pending cases in the courts were expedited.
 - Special multi-colour formats were prescribed to receive applications from the people who had any complaint against the assessment made. More than 70,000 applications were received considered and disposed off, facilitating the recovery of taxes from the settled cases

Results achieved

As a consequence of the efforts made, the property tax collection went from 47 crores to 74 crores (nearly 65%) in one year. By the second year-end, the property tax recovery got doubled.

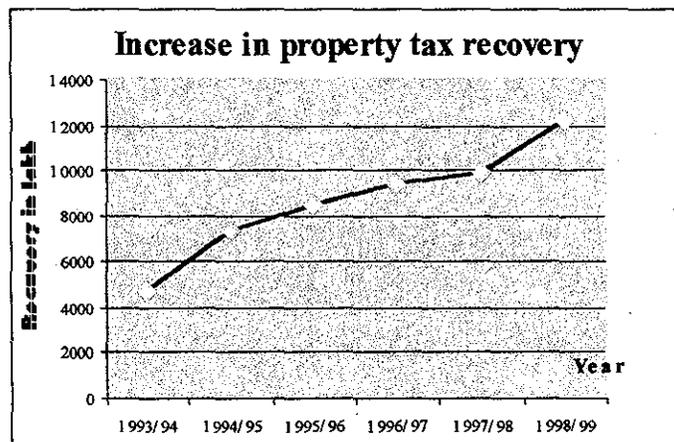


Fig. Growth in AMC's property tax
Source: AMC

Lessons learned

Property tax collection can be improved by concerted efforts such as:

- Focus on big defaulters
- Strict enforcement through coercive measures
- Continuously monitoring recovery by each individual allocating targets of recovery

- Unearthing the hidden properties and taking action against corrupt and inefficient employees

Sustainability

The corporation, after the turn-around has improved upon the revenue generation each year. The benchmarks are fixed per year. There is continuous monitoring and pressure to achieve the targets.

Transferability

All the local bodies engaged in the collection of property tax should consider these steps to increase the collection.

2. Property tax reforms – Area based property tax system

The present property tax structure of AMC being unfair, non-transparent, inequitable, having no buoyancy, the Corporation has worked out a formula where each property will be assessed on the basis of its carpet area, location, age, type of buildings/type of use and its user. This formula has been approved by Govt. of Gujarat and legislation has been passed by the state legislature in Feb.1999 incorporating the new system. The rules are now being formed by the AMC for the implementation of the new system of assessment in the B.P.M.C. Act 1949.

Situation before the initiative

Property tax is a direct tax, which affect every individual owning property in the city. Any increase in it creates resentment from the property holder. In our country, property tax is generally levied on the basis of ratable value of the property, which is determined by either the rent fetched by the property or what it can fetch if given on rent or the capital value of the property. The residential as well as non-residential self-occupied properties in Ahmedabad are traditionally assessed at a very low rate. Many residential and non-residential properties have been assessed under a meagre amount of Rs. 600 per year, which the amount fixed in the state laws for giving exemption to pay general property tax.

73% of the residential properties and 29% of the commercial as well as other non-residential properties are assessed below Rs. 600 per year with the result they are exempted from the payment of general.

Following are some of the drawbacks of the present property tax collection system:

1. Separate formulae having a bias in favour of landlords are in existence for the assessment of self occupied as well as tenanted properties
2. The formulae are unfair and non-transparent
3. Lower level staff assesses the properties having lot of discretion, which breeds corruption.
4. Recovery was very low in comparison to the demand of property tax.

5. There is a wide gap in the property tax of the old & new property, though both avail similar civic services.
6. There is a wide gap to the extent of sixteen times between self occupied and tenanted residential properties and about five times between self occupied and tenanted non-residential properties.
7. A big difference in assessment of self-occupied and tenanted properties has given rise to suppressing the information of tenancy and actual rent realised.
8. A very large number of properties are exempted from payment of general tax on account of very low assessment made.
9. As ratable value cannot be increased, the local bodies generally raise the tax rate, which operate harshly against the genuine taxpayers.
10. A situation has come where the property tax rates have been raised to an absurd level up to 90% of the ratable value of the property.
11. The collection of property tax in Ahmedabad has been relatively poor

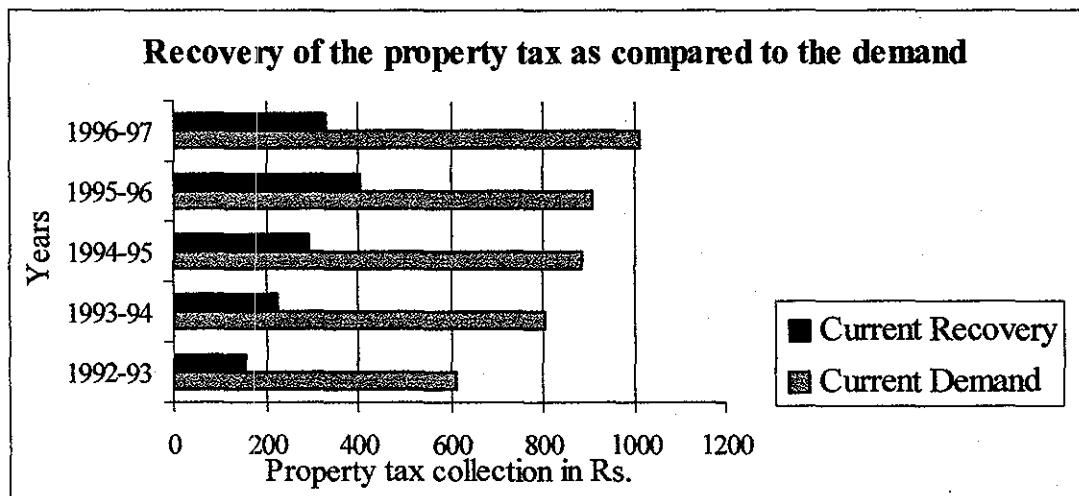


Fig. Low recovery of property tax against the demand.
Source: AMC. 1998

Strategy adopted

Looking to the wide variations in the assessment of old and new property, non-transparency & corruption in the assessment system, and wide gap in the assessment of self occupied Vs tenanted properties, it was necessary to revise the present system of the property tax assessment. A simple, transparent, just and fair area based property tax structure was proposed giving weightage to following factors:

Residential Properties

- Location of the property
- Type of the property
- Age of the property
- User of the property

Non-residential properties

In the case of non-residential properties the parameters are the same except that instead of type of the property, use of the property is considered for property tax assessment. This helps in giving relief to non-residential properties used for religious or charitable purposes viz. a viz. use of income generating activities. Factors are assigned to each category – higher weightage is given to the building situated in posh areas than those in the poor areas. Independent bungalows have been given higher factor than flats, small houses or chawls. Built-in concession is provided for the old properties.

Results anticipated

It is expected that the new tax structure will have following advantages:

1. All the properties, large and small except the huts, houses in chawls smaller than 25 sq. m. come under the tax net
2. Property tax will be paid according to the size of the property subject to factors. The number of people under exemption will come down from 67 to 35%
3. Tax base will be broadening which will enable the corporation to reduce the tax rates.
4. The tax structure will fill the gap between self occupied and rented property as well as old & new properties
5. It will be possible for the corporation to raise the tax rate each year to cover the increasing cost of infrastructure development and municipal services
6. The new structure being rational will ease the problems of people and people themselves will be able to calculate their property tax

3. Issuing municipal bonds for financing infrastructure projects

AMC issued tradable Municipal Bonds worth Rs. 100 crores for the first time in south Asia for financing its infrastructure projects. This has opened a new era of accessing the debt market by the urban local body for infrastructure financing.

Situation before the initiative

Urban local bodies in the country are required to finance infrastructure projects such as water supply, sewerage, road and bridges construction etc. All these require huge capital expenditure. The known sources of revenue of urban local bodies are quiet often not adequate to meet such requirements. The local bodies have thus look for other options.

Normally the local bodies in India look forward to the financial institutions like HUDCO, International-funding agencies like World Bank, ADSB, LIC etc. Raising of the resources from these channels is often not adequate to meet the financial requirements of the city. Therefore new methods of funding infrastructure projects

have be found out. One such resource is the capital market, which has remained untapped for municipal infrastructure development in India and other developing countries. In USA, municipal bonds have a big market and people made large investments in the corporation.

The initiative to go for municipal bonds was suggested to AMC by the USAID and it was carried through with the help of FIRE-D project. Ahmedabad was in need of finance for starting a number of developmental projects. So the commissioner decided to go for such bonds.

Strategy adopted

Since the bonds were new to India and people have hardly any faith in the municipal corporation, no body would have invested their money in municipal corporations, which are non-profit service organisations and whose financial position is generally in a very poor state.

Accessing the debt market therefore necessitated concentrated effort to raise the credibility of the organisation. AMC thus took the following steps in the direction of raising the municipal bonds:

- First step taken was to put its 'house in order' by improving finances. This was done by rigorous octroi & property tax collections, by plugging leakages and by bringing professionals in the administration and by improving general administration
- The next step was to get the corporation credit rated by a leading financial institution. Ahmedabad city, was the first city in India to get credit rated after its financial turn around. Credit rating shows the financial soundness of the organisation. A study of organisation structure and management, economic scenario of the city, analysis of the project, proposed payment mechanism for the instrument, etc. were undertaken. AMC got AA(SO) rating from the CRISIL. The AA(SO) rating indicated structured obligation for which octroi collection from ten designated points (check posts) were specifically earmarked for servicing the bond and kept in an Escrow account
- The credit rating was able to build confidence in favour AMC. This coupled with the good work done by the corporation successively for three years helped AMC in marketing its financial strategy to mop up public money through the bond issue for infrastructure projects. The USAID & HUDCO also participated in preparing documents for raising the bond issue
- The corporation very successfully held road shows and created a mechanism to ensure the returns on the money invested. This was done through 'escrow accounts'. Incomes collected at specific octroi check posts and property tax collected from particular wards were kept aside in the Escrow accounts
- The Ahmedabad Municipal Corporation went to SEBI for the registration of the city bonds. AMC has the distinction of issuing first public municipal bond in India

Ahmedabad Municipal Corporation took out the public issue of 10,00,000 secured redeemable bonds. **City bonds**, as it is popularly known, were of Rs. 1000 each for cash at par aggregating Rs. 100 crores. The issue opened on 16th January 1998 and

closed on 27th January 1998. Applications were received for Rs. 104.67 crores and allotment was made by 24th January 1998.

Results achieved

The Ahmedabad Municipal Corporation tapped the debt market in mid January. Although the issued had opened with a reasonably attractive coupon rate of 14% for an AA (SO) rating (indicating high degree of certainty about timely repayment), the Reserve Bank of India (RBI) chose to hike bank rates just then. The move threatened to push up interest rates across maturities, forcing investors to hold back. Despite this, the corporation issue was successful and it mopped up an extra Rs. 5 crores.

Lessons learned

- Municipal bonds mechanism can work in India for raising finances for infrastructure projects
- For mopping up funds through a bond issue, the corporation should have credit rating done to project its financial soundness before the investors
- The local body must have detailed project proposals ready for implementation to ensure quick utilisation of funds

Transferability

All the Urban Local Bodies whose financial position is good and have a good credibility and a sound track record can go for municipal bonds to raise money for infrastructure development.

4. Public private partnership – in all the spheres of urban governance

AMC has initiated a number of partnerships with leading organisations, institutions and NGOs of the city towards infrastructure development, which has changed the work culture of the organisation.

Situation before the initiative

Role of cities world over have changed as a result of the major forces of globalisation. The cities are now competing with each other and playing a role of engines of growth. The concept that local bodies have to provide all infrastructure facilities is fast changing and they are taking a role of enabler bringing in private sector participation in infrastructure development. The Ahmedabad Municipal Corporation (AMC) taking advantage of this success in financial management and consequent improvement of city infrastructure took initiative to rope in industry, NGO, etc. and built innovative partnerships in a wide range of local governance functions. These include:

- Slum net working for the provision of urban basic services to the poor
- Infrastructure development such as construction of roads, parks and gardens
- Development of urban forestry etc.

The purpose of these innovative partnerships has been to create a new role for the city where a range of stakeholders, especially the poor and weak among them, have a direct and positive role to play in improving the city life.

Strategy adopted

- The concept of urban partnership emerged from the thought that if an idea of giving donations for creating an infrastructure facility in the city is propagated, there will be a few takers and the efforts will not be sustainable. Instead if the approach of creating partnerships is put forward to improve civic services, it may receive a good response as the investor would be in a position to re-cook his investment with interest over a period of years of continuing partnership
- In case of slums, it was felt the slum dwellers do have capacity to pay something and they can contribute towards the cost of laying infrastructure if they are made partners in the project and involve in the process of transformation. This will change their status of beneficiary to a partner and they would better care of the investments made
- Both the above concepts were adopted as a strategy to create partnerships in infrastructure development
- The basic principles on which such urban partnerships in Ahmedabad are based are:
 - Mutuality of interest
 - Commitment towards the city
 - Team work
 - Political support from the elected municipal councilors
 - Support from industries and social institutions
- Financial, technical, administrative, social and other supports have come in due courses. The political support has come from the elected municipal councilors and the representative organisation such as SEWA

Some of the partnership examples are given below

1. Street improvement partnership

- The AMC initiated public-private partnership aimed at improving the streets of Ahmedabad to make them state of art roads with state furniture
- Streets were proposed to be designed and constructed to ensure smooth flow of traffic as well as pedestrian safety, reducing pollution and improving the cityscape

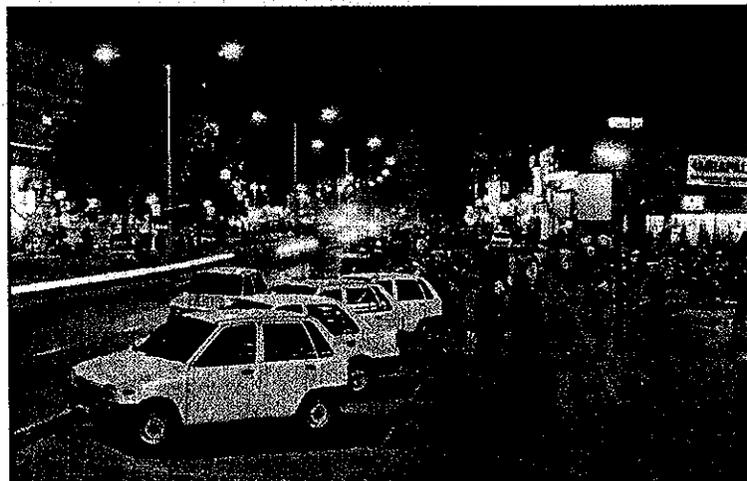


Fig. Night view of the C.G. road

- The C.G. Road, which is the prime business and commercial street of Ahmedabad, has been redevelopment with the private sector participation. The development of this commercial street was taken up by the AMC in partnership with the Arvind Mills Ltd. The street was designed by Dr. Bimal Patel a leading architect and urban planner of the city as a gesture to help the city government in creating state of art infrastructure. The Arvind mills invested Rs. 35 million. It is recovering this contribution from advertising and parking revenues. Similar partnership projects are now being proposed on Drive-in-Road, Satellite Road and other major roads
- A committee headed by the municipal commissioner was constituted having all stake holders on the committee to monitor the progress of the work
- Similar partnerships are now being proposed for drive in cinema road, satellite road etc

2. Development of parks and gardens

The city has more than seventy parks and gardens. These are maintained by the AMC. The condition of these gardens was far from satisfactory. Many gardens were not being utilised by the people and had become a place for anti social elements.



Fig. Law garden developed under the public private partnership.

Strategy adopted

The corporation persuaded leading industrialist and other institutions and individuals to come forward and adopt few parks, gardens, and traffic islands.

They were persuaded to invest in the development of parks and gardens and maintain them with their own staff in return they were offered right to recover cost through advertisements on a hoarding / public hoarding allotted to them on important roads. Developers of traffic island were allowed to put their nameplate of small size to display their participation.

Results achieved

The corporation has been able to develop the Law garden, the Parimal garden, the Sardar Bagh and Bakeri garden. The investments have come from private sectors. All these parks have become very popular and now been utilised fully. The people

appreciate this successful effort of the corporation. Similarly several traffic islands have been developed through private sector participation and they have added to the beauty of the place.

Lessons learned

Local bodies can develop the parks, gardens and places of recreation with the help of private sector without any investment of their own.

3. Slum networking project

The slums continue to be a serious threat to the health and sanitation of the city. Besides, the people living in the slums face serious health problems and associated human degradation. The environment in and around the slums is far from satisfactory and need urgent attention.

Situation before the initiative

- The 1991 census of the city of Ahmedabad shows that about 41.3% of the population live in slums, which are in the form of hutments and chawls (semi slums).
- The hutments are situated on 1029 locations whereas the chawls are situated on 1383 locations having about 2,25,000 households and about 1.15 million people living within them.
- The slums were not having adequate infrastructure causing a lot of health problems.

Strategy adopted

Learning from the experience of the past few decades and realising the urgent need for improving the quality of life of slum dwellers a project was formulated by AMC. It was named as Pandit Deen Dayal Upadhyay Antyodaya Yojana – slum-networking project.

The concept of slum networking represents a new perspective. Rather than treating slums as marginal areas, slum networking incorporates them into the fabric of city life. This Project is based on the partnership approach. It is comprehensive project for upgrading and providing infrastructure in the slums and integrating it with the city's infrastructure.

There are 3 components in the project:

- 1) Improvements in the Physical Environment
- 2) Community Development
- 3) Linkages with City Level Services



Fig. Paved street in Sidheshwarinagar slum.

(1) Improvement in the Physical Environment

The Corporation initially decided to spend on an average Rs. 6000/- per dwelling unit in the slums towards improvement of physical environment services which include

- Road and paving
- Water Supply to individual households
- Underground sewerage to individual households
- Stormwater drainage
- Street lighting
- Solid Waste Management
- Landscaping

An important feature of the project is to provide individual services, as opposed to shared or common ones. The project further linked up with two ongoing programs of pay-and-use toilet scheme and 90:10 low-cost-sanitation scheme with this project, where construction of an individual toilet for each dwelling unit at the cost of the corporation is added in the project. This has added to the cost by another Rs. 4500

(2) Community Development

It was felt that by mere provision of physical services the overall quality of life would not change. A lot is required to be done towards community development and involve the slum population in the decision making process. Under the community development program the following activities were taken up:

- Establishment of neighborhood groups, women's groups and youth activities
- Mobilisation of community savings through savings and loan groups
- Initiation of non-formal education opportunities for pre-primary age children, school dropouts and illiterate adults
- Organisation of community health education and other interventions focused on disease prevalent in slums and maternal and child health
- Support for vocational training, job access for unemployed persons and improving access to formal sector finance for small enterprises

The community development component has been put at Rs. 1000/- per dwelling unit.

Linkages with city level services:

The slums so far were being treated as separate entity devoid of linkages with the city level services. The infrastructure connecting the slums was inadequate and without creating the additional infrastructure facilities it did not seem possible to establish linkages with the slum pockets. The project therefore includes the provision of infrastructure around the slums and establishes linkages of all services at an average cost of Rs. 3000/- per dwelling unit.

The Partnership Concept:

The Project aims at having 33% partnership of the slum dwellers towards the provision of internal physical services and a small contribution towards creating a corpus fund for the maintenance of these services once they are laid for them. The slum dwellers are required to contribute the fixed amount of Rs. 2000/- per family towards physical and Rs. 100/- towards corpus fund for maintenance in future.

Project Cost & Contribution

Physical environment cost Rs. 6000/- per household.

Contributions: Rs. 2000 households
Rs. 2000 industry sponsors
Rs. 2000 AMC

• Community development cost Rs. 1000/- per household.

Contributions: Rs. 300 NGOs
Rs. 700 AMC

• Linkages with basic infrastructure cost Rs. 3000/- per household.

Contributions: Rs. 3000 AMC

• Individual toilet under low cost sanitation project

Contributions: Rs. 4500 AMC

The total project cost estimated at Rs. 325 crores spread over a period of 5 to 7 years.

Example of a slum networking project - at Sanjaynagar

Situation before the initiative

The Sanjaynagar settlement consisted of 181 households of the Patani community spread over 20,871 sq.mtrs. Land belonged to the AMC. The community consists mostly of vegetable vendors (50%) with some salaried workers (15%) and skilled labourers (10%). Basic services such as water, drainage, individual toilets, streetlights and health services were completely absent prior to the implementation of the project.

Strategy adopted

Four partners joined hands in this project. The community; the Arvind Mills Ltd.; SAATH (an NGO) and the AMC. SEWA Bank and HUDCO extended financial support. Arvind Mills promoted a trust - SHARDA (Strategic Help Alliance for Relief to Distressed Areas) to implement this project. All the partners played independent roles, but exercised joint control. Arvind Mills was the executing agency. Following process was involved:

- First, community leaders were identified and motivated to persuade the community to participate in the project as partners
- AMC passed a resolution giving assurance that the slum dwellers in the project will not be ousted for 10 years. This raised the level of confidence among the residents
- Infrastructure was provided to individual households on a cost-sharing basis. They were made to understand the indirect health benefits of spending on sanitation. Each household paid Rs. 2000. The AMC and the Arvind Mills Ltd made equivalent contributions
- Slum dwellers not in a position to raise this amount were persuaded to avail loan facility from SEWA Bank and all women members opened accounts with the bank. They also willingly realigned their houses to ease the congestion in the settlement, sometimes even losing a bit of the land under their possession. The high credibility of the partners and the well-respected local leadership created a positive environment. As a result, the project could be completed in just 10 months

Challenges faced

- The biggest challenge was to change the mindset of the community and make them self-reliant
- There were also differences of perception and work culture between SHARDA trust and AMC. The city government officials had a feeling of loss of authority and were not mentally tuned to hand over the project to an outside agency. While AMC officials were always apprehensive of audit objections, the private sector personnel were impatient with the pace and complexity of AMC procedures

Results achieved

- A new direction was found to tackle the problems of urban slums
- The slums could transform into liveable areas with the active participation of slum dwellers
- Health and sanitation substantially improved with the slums

Lessons learned

- It is possible to bring about a change in the mindset of slum dwellers. They can come out of the charity orientation and willingly share the costs for upgradation of their environment as partners of transformation
- Slum dwellers can get access to financial institutions such as SEWA Bank. The active participation of women in such project can help to ease social tension and to elicit effective participation from all households.

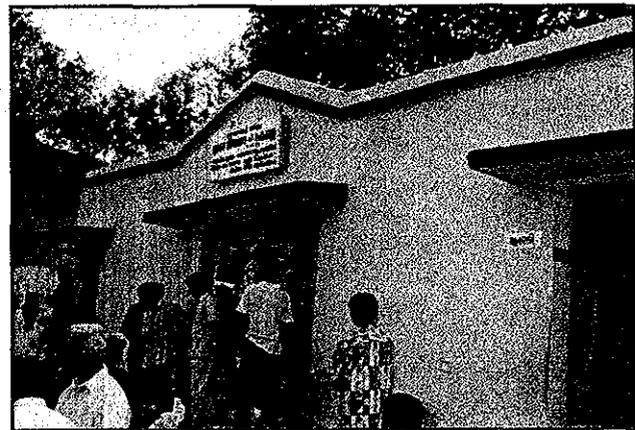


Fig. Construction of public toilets in slums under the SNP.

- This project revealed that new relationships are possible in which NGOs find a more effective role for themselves with the AMC. Instead of accessing funds from private institutions they can now get access to public funds
- There can be a convergence of services, which are conventionally delivered through different departments and agencies
- The execution of works through private sector and AMC overseeing the same is not workable- better mechanism for execution of the project is to be found. Till such time this is found the local body should be the executing agency

Transferability

The slum improvement partnership concept is fully replicable. Several other communities are now eager to join the project and transform their quality of life. In fact, presently 10 more slums of Ahmedabad are undergoing SNP with the help of a private partner i.e. Lions Club and NGOs SEWA & SAATH. Another ten are undergoing the process of survey and design for implementing SNP.

4. Urban forestry or green partnership

- Through this project, the AMC has undertaken, urban forestry on its vacant plots in partnership with community based organisations, (CBOs) in a mutually beneficial manner
- AMC provides the land and water supply, and pays initially for fencing and tree plantation afterwards it pays a small sum for maintenance for a period of five years. The administrative and management expenses are borne by the CBO or an NGO which has generate income by planting income generating plants in between the rows of trees.
- The community is allowed to undertake agro-forestry.
- 27 plots have been assigned to 13 CBOs / NGOs. The process was facilitated by the USAID.



Fig. Development of urban forest in vacant plots.

5. Professionalism in administration – recruitment of professionals in the corporation

AMC has inducted 41 professionals as middle level managers (Masters of Business Administration, and Chartered Accountants, ICWAs etc.) in the corporation. It is envisaged that this will provide the much-needed change in the work culture of the corporation by fostering corporate environment and modern thought process.

Situation before the initiative

- The City Corporation used to recruit junior clerks from the open market through competitive test and these clerks use to go up in the ladder and take up higher positions up to deputy municipal commissioner. There was hardly any induction of direct recruits on administrative post. The promotions were automatic and not based on merit. Only in high positions merit was given some consideration. There was therefore no competitive element to show performance and the administration was also devoid of new ideas and professional work culture. The city corporation realised that the management of urban affairs is becoming more and more complex: For better urban governance there is a need to induct professionals at the middle level to change the work culture and give new direction to the city administration
- Need was felt for professionalism in the services through better delivery and corporate environment
- Modernization of the services brings a lot of jobs and responsibility at the part of the corporation, which require fresh people with modernistic ideologies

Strategy adopted

Looking to the need of modernization in various departments, it was decided to induct professionals in the municipal administration as middle level managers and place them on strategic positions in various departments and groom them to higher positions later. It was also decided to introduce an element of direct recruitment from 33% to 50% in all technical as well as administrative cadre and induct new blood with higher qualifications and proficiency.

- Corporation's recruitment rules were revised to enable the corporation to make such direct recruitment
- In 1997, forty-one professionals were recruited as assistant managers. These were the people with the degrees of Master of Business Administration, Chartered Accountancy, & Institute of Cost & Works Accountants, etc.
- The new managers were inducted at a position - just above the class II level of officers
- These new officers are posted in various departments and are holding important positions in the area of octroi duty, property tax, finance, corporate planning etc
- They are being paid salaries equivalent/more than that paid to the fresh recruits in the corporate/private sector

Results achieved

- Direct recruitment resulted in blending the new & old work culture
- Initially there was some resistance from the old staff to such direct recruitment but the corporation could manage it by handling the situation firmly and tactfully. Out of the 41 candidates selected, some resigned and some were discharged. 35 officers have continued with the corporation

The new officers are fresh and are being trained in different areas of municipal management. As they have better exposure and outlook they are performing well. It is expected that these officers will become an asset to the organisation in the years to come and will help in changing the work culture

Sustainability

Fresh recruitment will be done every year as per the percentages prescribed. Direct recruitment will sustain the effort to change the work culture and bring professionalism in administration.

Lessons learned

- For improving age old municipal administration there is a need to induct professionals to change the work culture, give new ideas and add efficiency in administration
- The first batch when recruited was not given any training about the functioning of the organisation and their duties. They were just posted in various departments and they had to pickup the thread themselves. It was later realised that they should have been given induction training to learn about the organisation and work procedures before they start their work
- Many senior employees are not supporting the new officers - they hamper their work. To avoid such a situation, good hands on training are necessary as well as co-operation of officers is necessary so that they can perform better. The existing staff should also be convinced that the direct recruitment is must to improve the administration and everybody at the lower level is not expected to go up unless they perform and do their work

Transferability

All the local bodies aiming at improving their administration can think of taking similar measures.

6. Energy saving initiatives of the AMC

AMC has initiated demand side management in energy saving in India. As a result of simple load management techniques, the city's peak electricity demand has decreased by 4 MW saving lakhs of rupees.

Situation before the initiative

- Ahmedabad Electricity Company Ltd. (AEC) meets the power supply needs of the Ahmedabad city. AMC is the largest single consumer of electric power of the city
- The corporation consumes 6% of the total power generated by the AEC for its water supply, sewerage and other services

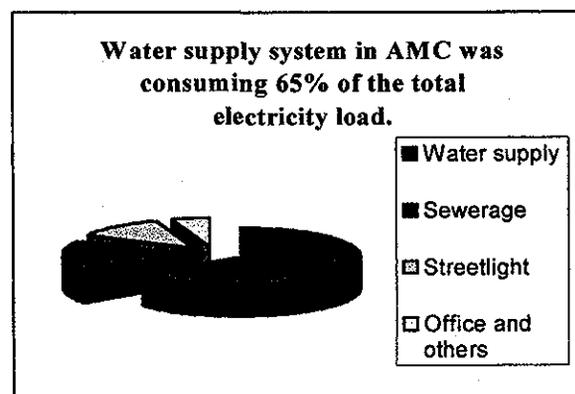


Fig. Break up of AMC's electricity bill
Source: AMC

Characteristics of the AMC's power consumption pattern:

- a. The power demand of the Corporation varies between 15 MW to 37 MW over a period of 24 hours. The maximum demand of 37 MW is recorded for only 3.5 hours only
- b. The power tariff of AECO is high as compared to other cities in India but it does maintain satisfactory level of services and uninterrupted supply of power

Looking to high tariff, the energy bills of the corporation had reached to 7% of its annual revenue budget affecting several infrastructure development projects. Need was felt to reduce power consumption and save on energy cost so that saving could be utilised in developmental activities

Strategy adopted

USAID initiated a process to save energy in Ahmedabad under Sustainable Cities Initiatives (SCI) program managed by Alliance to Save Energy, Washington along with its Indian counter part Energy Management Consultation (EIRMC).

Under the above project preliminary energy audit of AMC water pumping stations was conducted and based on the results of energy audit, series of measures were initiated to ensure:

1. Reduction in peak demand,
2. Reduction in power losses,
3. Reduction in power consumption.

Following measures were taken:

1. Reduction in Peak Demand:

- 76% of total municipal energy consumption is on account of water and drainage services. The water supply needs are met from two principal sources – (i) surface water through five French Wells (Radial Collector Wells) and 16 infiltration wells in the river bed to the extent of 50 MGD, (ii) 325 deep bore wells having a depth ranging from 550 to 900 ft.(water table having gone down to 330. ft). These bore wells are in use continuously and 57 million gallons of water is being drawn.
- There are 400 pump sets installed at various water distribution stations ranging from 35 HP to 350 HP having capacity of 40,000 gph to 400,000 gallons per hour. These pump sets are operated for 2 to 3 hours for water distribution only. Besides 324 bore well pumps are installed and operated on round the clock basis for drawl of water and filling in the under ground storage tanks.
- Until recently all these pumps of water supply and water procurement used to run simultaneously during water supply hours raising the maximum demand of power to 37 MW.
- With a view to reduce maximum demand a pilot project was undertaken. The AMC officials and SCI identified 18 pumping stations where pump operation could be suspended during water supply hours.

During two months trial period, excellent results were achieved and the peak demand went down by 2 MW resulting in 7% reduction in maximum demand and annual saving of Rs. 12.90 lakh (US\$ 30,000).

Ahmedabad Municipal Corporation is now screening other procurement pumps that could be shut down during peak hours to further reduce the peak power demand.

1. Reduction in Power Losses

- a. Many of these pumps are old and inefficient whereas several new pumps also were working inefficiently. Efficiency of the pumps can be improved with the installation of capacitors on the bore well and sewerage pumps lines. To begin with, the corporation installed 188 capacitors on the pump sets having a capacity of 75 HP and above. This substantially reduced the power consumption reducing the demand by about 2000 kilowatts, saving Rs. 2.6 million a year. Besides by improving the power factor the reactive power consumption has also been reduced substantially to the extent of 12.6%
- b. The Corporation has 5 French Wells (Radial Collector Wells) having pumps which draw on an average 800,000 gallons of water per hour. These pumps were not optimally utilized on account of use of narrow MS pipes, which was resulting in friction loss as well as drawl of less water.

AMC conducted another pilot study at one of the French wells where replacement of 8" steel pipes was done with 10" PVC (plastic) piping to reduce friction losses and increase in flow of water. With old 8" diameter steel pipes in place, due to friction losses the pump had a flow rate of 370 cubic meters per hour. With the replacement of 10" new UPVC pipes the flow rate has gone upto 540 cubic meters per hour with the same power consumption. Encouraged with the excellent results of increased water output AMC has decided to change the 8" steel pipes with 10" UPVC pipes in remaining 23 pump sets at the remaining French Wells. This will save 1.70 million kWh of electricity per year, reducing electricity charges by 4.48 million.

- c. Replacement of over size transformers
AMC launched a power transformer study covering an installation of 90 units, examining the ones that may be over sized and analyzed the economics of their replacement. AMC examined the overloading / underloading of the transformers. To begin with three transformers have been switched off resulting in substantial energy saving.

4. Reduction in power consumption

- a. Replaced 60 W incandescent lamp with 11 WCFL (compact fluorescent lamp). The City Corporation has more than 60,000 streetlights where various types of street light fittings are utilized. The Corporation has

successfully reduced the power consumption by replacing 60-watt incandescent lamp at 8000 locations with 11 lights. This also resulted in saving of O&M costs on account of longer life of CFL tubes.

- b. AMC has replaced 1000 conventional chokes fitted on the tube light by electronic ballast resulting in a saving of approximately Rs. 0.3 million.
- c. The corporation has replaced about 20% of its mercury lamps (about 2000) by 150-watt sodium Vapour reducing the power consumption and net saving of Rs. 1,80,000/-.

Results achieved

AMC is able to save 4 MW of the peak electricity demand and high energy losses resulting in substantial saving in energy charges.

Sustainability:

To sustain the energy saving initiatives, following step are taken by AMC:

1. Maximum demand reduction:

- The Corporation has its maximum demand of power between 7 a.m. and to 10 a.m. To reduce the peak hour demand the Corporation will switch off more pumps on the water supply bore wells during these peak hours and make up the required quantity of water by running the pumps in non-peak hours.
- The Corporation will also augment its water supply source and storage capacity by construction of new bore wells and underground tanks where water would be drawn and stored during non-peak hours preferably during night hours when the power demand is less. The Corporation would save substantially power charges, as there is likelihood of getting power at concessional rates during the night hours.
- Another step the Corporation proposes to take up to reduce the peak demand is by filling the overhead tanks during night time and supply water through them during the supply hours. Necessary modifications in the overhead tank valves and the pipeline are undertaken to facilitate supply of water through 18 overhead tanks. This will also help in improving the pressure of water supply and like the water to the farthest end reducing public complaints.

2. Reduction of power losses:

- Having successfully experimented on reduction of friction loss at one of radial collector pump, the Corporation has decided to charge the narrow steel pipes at the remaining 23 radial collection pump sets. Tenders have been invited and contract has been awarded. The work is likely to commence shortly. The work would be completed within 3 months time. This might result into a further saving of Rs. 4.00 million annually and pay back period is 5 to 6 months.

The Corporation proposes to extend the exercise of replacing oversized transformer by smaller or one shut down the additional transformer to reduce power consumption in a period of six months.

3. Reduction in power consumption:

- The Corporation proposes to replace all the incandescent lamps with 11 watt CFL and in future use 11 watt only instead of 60-watt traditional lamps.
- The city has about 10,000 mercury streetlights. Most of them are 250-watt lamps. The Corporation has taken up a program of replacing 250 mercury lamps by 150 watt sodium vapor lamps to save energy consumption and to reduce the costs of O&M due to longer life of the bulb and improved street lighting.
- The Corporation will replace 9600 chokes in the phase by electronic ballast within next 12 months by using lease finance mechanism through private sector participation. Here the Corporation will only pay 20% costs initially and would pay the remaining amount through saving in power consumption. Once the lease period of 18 months would be over, the Corporation will have the benefit of saving power at least for 5 to 6 years by using the same chokes. This will amount to net saving of over Rs. 2.5 million per year.
- The Corporation will have the energy audit of all the tube well stations and drainage pumping stations of the city and take corrective measures on the basis of the recommendations that will be made in the Audit Report. The Corporation expects to save about Rs. 10 million per year from improvement resulting from such audit.

Energy Management Cell:

To sustain the energy saving efforts and to improve energy efficiency and demand side management, a Management Cell has been set up at the AMC, which now has a staff of three full time professional engineers.

Transferability

The initiative is fully replicable in other cities. A number of the cities are beginning the energy saving measures in one or the other way

7. Initiation of Heritage walk in the city

AMC has initiated a walk through the heritage pockets of walled city of Ahmedabad on a participatory approach to create awareness of importance of heritage conservation among people and to conserve the monuments.

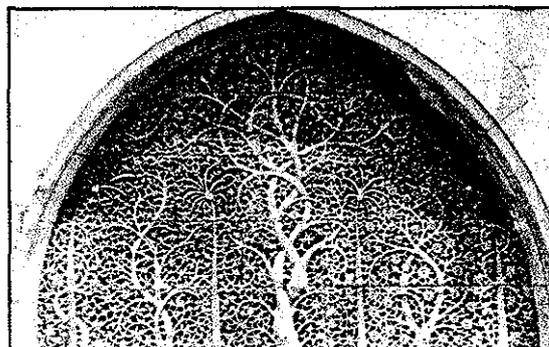


Fig. Ahmedabad has rich heritage

Situation before the initiative

- The rich heritage of the city was ill protected and under the threat of decay
- Archeological Survey of India (ASI) and Gujarat Archeological department has identified certain monuments for conservation
- A number of studies had been conducted by Ford Foundation, CEPT, AMC and EPC, CEE, etc. with conservation as focus and came up with proposals
- Practical applications of these proposals did not worked out

Strategy adopted

- AMC invited CRUTA foundation, a consultancy firm from Calcutta to help in setting up a Heritage walk in the city
- AMC and CRUTA conducted household surveys and studies in the walled city and identified a route containing typical heritage buildings and traditional fabric
- A number of meetings with local people and experts were organised
- Publicity of the heritage walk to create awareness was done through media
- A number of cultural activities related to historical events and people of the locality were conducted at many pockets in the route
- A walk from Swaminarayan temple, Kalupur to Jama Masjid is being carried every day including all public holidays
- The walk is conducted by trained guides supplemented by audiovisual shows and brochures

Results achieved

- The initiative is being conducted successfully for the past two years
- A large awareness among people was developed
- Many old buildings and streets are now being repaired and maintained
- A number of dignitaries from all over the world, students, citizens, etc. attended the walk
- Many national and international bodies appreciated the success of this initiative of AMC

Sustainability

- Heritage cell set up in the AMC.
- The heritage cell set up in AMC exclusively to look after the matters related to conservation is now carrying out the heritage walk
- Financial and Technical assistance to this Heritage cell is being considered from French Govt. in collaboration with various Indian agencies.

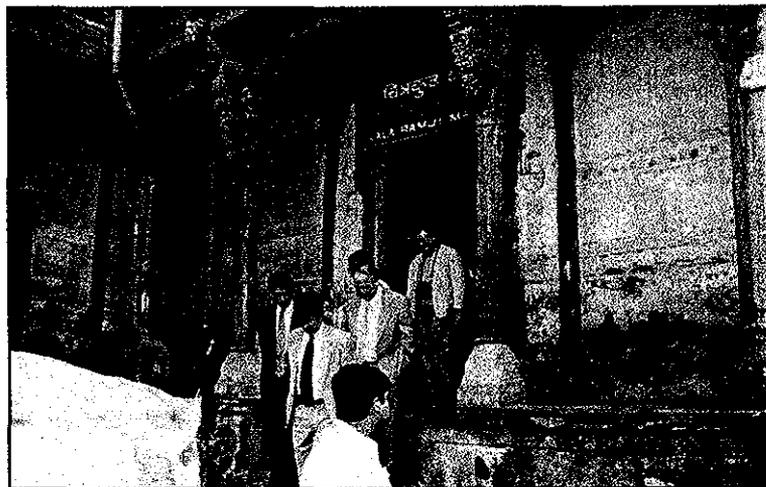


Fig. A large number of Indian and foreign tourists are coming to experience the heritage walk.

Many activities are done to involve community to sustain the initiative

Lessons learned

- People's participation in the whole activity is necessary to make the initiative successful
- Having a separate cell for heritage in the local body can improve the efficiency and sustainability of such initiatives

Transferability

The initiative is transferable to all the cities having rich cultural heritage. Jaipur corporation has been impressed and with collaboration of Jawahar Kala Kendra has initiated a cultural walk and similar initiatives in their city already started replicating this experience.

8. Solid waste management

The city of Ahmedabad has adopted a system of solid waste management based on the principal of "handle waste once only". Multiple handling of waste at various stages is been done.

Situation before the initiative

- Old open waste storage sites were unhygienic and unscientific. This was causing diseases among the public and sweepers.
- Waste was disposed through unscientific landfill method. The practices also required costly urban land.
- There was no separate provision for medical waste disposal.

Strategy adopted

The corporation has introduced containerized handcarts for collection of waste by the sweepers. This waste instead of being unloaded on the ground as per the old tradition is being directly transferred into a closed body container of 4.5 cubic m to 10cu. m. size containers.

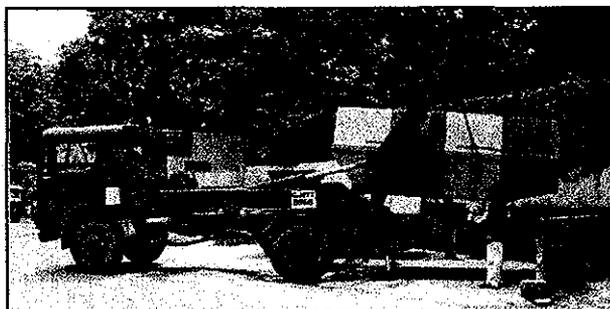


Fig. Mechanical handling of solid waste in the city.

708 locations have been identified in the city considering the requirement of each ward and distance to be traveled by the sweeper. The containers are being placed at cement concrete platforms and are connected to the road to facilitate easy movement of hand cart up to the container and smooth transfer of waste from handcart to container. No loading staff is required to pick up the garbage and put into trucks as per the old system.

The containers went full are transported by hydraulic equipments to the waste disposal site. Thus waste once picked by the sweeper touches the ground only at the processing / disposal site. The entire operation is becoming clean and environmental friendly reducing the need of manpower for transportation of waste. The system also substantially helps in protecting the workers from the ill affects of handling the garbage and reducing the time and efforts of the transportation and disposal of waste.



Fig. Special van for collecting medical waste

The biomedical waste is being collected separately in polythene bags and incinerated following the guidelines of ministry of environment of the government of India. Efforts are being made with NGO participation to mobilize the people for source separation of recyclable material and hand over the same to the ragpickers at the doorstep.



Fig. Incineration of medical waste

The ragpickers are being organised by the NGOs to collect the waste from the doorstep at fixed intervals instead of picking up the waste from the streets, dustbins having contaminated waste.

The corporation has encouraged private sector participation in waste management. A compost plant of 500-m ton capacity per day has been set up by a private company for treating municipal solid waste at the full cost of the private sector.

The corporation has given land on a token lease rent at the land fill site for setting up the compost plant and is realizing revenues in the form of royalty, private entrepreneur besides solving its problem of finding 1000 cu. m. of new land each day for waste disposal. The corporation has also privatised the work of disposal of dead animals and slaughter house, meat and fish market wastes. A private entrepreneur with the help of government of India has put up a sophisticated plant and the corporation has given land for setting up the plant. The corporation is thus saving above Rs. 30 lack a year by making this arrangement through private sector.

Results achieved

- The corporation has been able to introduce hygienic system of waste storage, transportation, and disposal to have been able to reduce the manpower requirements for transportation of waste.

- Has been able to manage 500 m tons of waste per day through private sector at the cost of private entrepreneur
- Has been able to save land requirement for waste disposal to the extent of 1000 cum.
- Has been able to generate revenue in the form of royalty
- Has been able to provide a better working environment to the staff.

Sustainability

The efforts made by the corporation are sustainable, as they are cost effective. The saving in the cost of manpower for transportation of waste and the requirement of land for disposal of waste can pay for the added cost of modern vehicles and equipments.

Transferability

The systems adopted in Ahmedabad can be replicated in any city, which has the facility of maintaining hydraulic vehicles and equipment.

9. Introduction of the double entry accounting system

AMC has introduced double entry computerized accounting system in the place of single entry manual accounting system.

Situation before the initiative

- The AMC was recording its accounting information on the single entry cash basis manual system up to the end of the last financial year 1996-97 Accordingly, AMC was issuing a statement of account each year, which includes revenues and expenditures on cash basis.
- The corporation does not know existing liabilities and assets through this system. This hindered in taking decisions.
- There was no financial management information available each day to the accountant.
- The manual accounting system was not only time consuming, but also inefficient.

Strategy adopted

- From April 1996, with the approval of the standing committee, AMC decided to computerized accounting system and introduce double entry accounting system.
- Computers were purchased and with the help of NIC (National Informatics Centre) double entry financial accounting system was developed in oracle language.
- Chartered Accountants were recruited into AMC as middle level managers to handle and upgrade the new system
- EDP department co-ordinated with the finance department for in-house capacity building and for training the staff

- In the first year of introduction of double entry accounting system, both the systems (double and single entry) were practiced to verify the validity of the double entry system
- After testing the system for one year, the system was introduced in AMC
- AMC appointed a local firm of chartered accountants, for updating its accounting information so as to estimate the opening balances of assets and liabilities. With this AMC prepares the balance sheet for the fiscal years. In the December 1996 the corporation prepared first balance sheet.

Results achieved

- The accounting work has become quick, efficient and systematic.
- Various items in the balance sheet can now be bifurcated into various components and information for different period can be achieved. This helps in taking a number of strategic decisions.
- Corporation could get AA(SO) rating from CRISIL because of better financial management.

Sustainability

The double entry accounting system is continuously upgraded to make it still more efficient. Today the corporation has a daily information of assets and liabilities with the help of Management Information System (MIS).

Lessons learned

Stress must be given to in-house computerisation system. This will help in evolving tailor made software package and better redressal to the requirements of the local bodies.

Middle level managers play a very important role in understanding the problems of staff and in upgrading the system. Their presence, dedication and interest is thus necessary to achieve good results.

Transferability

All the local bodies should replicate the practice with suitable modifications to improve their financial management.

10. Supporting sanitation facilities in private housing societies and chawls, having houses smaller than 70 sq. yards

AMC gradually withdraw providing service of municipal sweepers in private societies by extending financial help for private cleaning. This has reduced extra burden on AMC and has improved the sanitation facilities.

Situation before the initiative

The corporation was incurring extra cost for sweeping the private areas, which does not come under its obligatory service

Some of the housing colonies were engaging private sweepers to sweep their area

Strategy adopted

AMC adopted a policy to gradually withdraw providing service of municipal sweepers on contract in private societies to reduce its burden of additional staff and its liabilities to provide services in private areas which was not obligatory. The corporation decided to extend financial help to small societies and chawls who engage private sweepers to maintain appropriate sanitation in their areas. The corporation prescribed yardsticks and decided to give subsidy of Rs. 150 per 3000sq. m. of sweeping area in such societies / chawls to support the effort of local residents

The scheme was propagated in each ward through the sanitation staff and press release and formats were prescribed for obtaining applications. The societies were supposed to appoint their own person full time or part time and give application to AMC with the proof of having appointed such persons and avail of the benefit of subsidy. The corporation was carrying of periodic verification.

Results achieved

More than 500 societies and chawls are being benefited under the scheme and the sanitation conditions in those areas.

Lessons learned

Low income housing societies could be motivated to make their own arrangements of sweeping of streets etc. within their area through an incentive of subsidy instead of providing the entire service by the corporation itself and incurring unnecessary financial burden.

Transferability

All corporations can replicate the above practice.

11. Improving sanitation in urban slums through provision of individual toilets

The corporation has successfully stopped open defecation by constructing public toilets.

Situation before the initiative

The city has about of 1089 slum pockets and 1383 chawls. Having a population of nearly 1.2 million people. About 5 lakh people living in these settlements did not have toilet facilities. Open defecation was a major problem of health and sanitation.

Corporation took up low cost sanitation project to improve the situation and has achieved remarkable results.

Strategy adopted

The Corporation introduced a scheme known as 80/20 scheme where 80% amount towards the construction of individual toilets would be given as subsidy to a slum dweller having income of less than 10,000 a year. 20% amount has to be spent by the slum dweller in cash or kind or by way of labour.

A simple format was prescribed for giving application. Site inspection was carried out on receiving application, work order was given if the application was genuine and there was a space for constructing a toilet without obstructing the minimum width of the road as was prescribed in the rules.

The applicant on getting a sanction had to construct his toilet and seek subsidy from the corporation.

The corporation got a very good response and has now increased subsidy component to 90% to do away with the open defecation in the city.

Results achieved

This scheme became very popular and by now more than 43,000 toilets have been constructed in the slums and chawls preventing open defecation by more than 2 lakh people. This has also substantially improved health and sanitation in slums.

Transferability

All the local bodies facing the problem of open defecation in the cities can replicate the initiative.

12. Decentralization of administration

AMC has decentralized the administration in three tiers i.e. at ward, zone and city level. This has improved the efficiency of the local body and has brought remarkable results in general administration.

Situation before the initiative

The city of Ahmedabad has a large area and population. The provision of basic essential services to the citizens and to redress their grievances centrally was posing a serious problem. It was neither giving satisfaction to the people nor was the administration in a position to cop with the situation. The time of senior officers was lost in handling minor complaints and they were left with no time to think of developmental activities for the city. It was decided to decentralize the administration and take the administration to the doorstep of the people.

Strategy adopted

The corporation decided to decentralize the administration in three tiers.

1. Ward level
2. Zone level
3. City level

Ward Level Administration

The ward-level administration was the key to decentralization. Each ward, which is having a population of 65000 to 75000 people was taken as a unit of administration where a ward officer was appointed to look after the affairs of ward administration. Engineering team and health and sanitation team comprising of officers and staff assisted him. Each ward was given one assistant, city engineer, 2 assistant city engineers and required number of supervisors and labour staff to look after water, drainage, roads and building work in the ward. The ward level staff was entrusted with the duty of maintenance of all the services as well as construction work which did not extend beyond the ward boundaries or did not fall in the category of large projects. The road construction work of the roads less than 60 feet width was also handled at the ward level.

The health and sanitation activities are looked after by the public health supervisor who is assisted by one sanitary inspector, 3 sanitary sub inspectors and a number of sweepers according to the number of beats identified in each ward. This staff was responsible for street sweeping and primary collection of waste besides being responsible to take preventive health measures and food sanitation measures in their area.

Zonal Level Administration

The city is divided in five administrative zones, north, south, east, west and central. Each zone has 8 to 10 wards. Each zone is headed by a deputy commissioner who is assisted by an additional city engineer and two deputy city engineers to look after engineering works, one additional/deputy health officer and assistant health officer to look after health works, one sanitation superintendent, to look after sanitation work, one deputy town planning and estate officer to look after town planning and estate department activities and one deputy assessor and tax collector to look after property tax matters. Generally all activities of the above departments are carried out at the zonal level and adequate powers are delegated to the departmental heads and the deputy commissioner of the zone so that zonal office can function as a mini corporation and files do not have to move at the head quarters for sanctions.

City level administration

The head office of the corporation provides city level administration. The heads of department give technical support to their zonal counter parts, guide them on policy issues and coordinate the activities of all the zones. The head office carries out the larger projects and takes policy decisions.

Results achieved

The decentralization of municipal administration started in the year 1990 has achieved remarkably good results. The zonal offices and ward offices have become the centre of activity and people have not to come to zonal offices if their problems are settled at the ward level. 95% of the problems are resolved at the ward level and only few items travel up to the zone and head quarter level. The zonal administration is very powerful as deputy commissioners with full powers are heading the zone and there is adequate level of supervision to ensure the quality of work. This has brought speed in developmental work and expeditious redressal of public grievances.

With the decentralization of work at the lower level, the municipal commissioner, the heads of departments at the corporation level and senior office bearers of the elected wing get adequate time to think of city level strategies and plan for the future and devote their time to more important matters. They have got relief from handling petty matters, which can be handled easily at the ward level/zone level.

Lessons learned

The decentralization of administration at the ward level is most important and ward offices should function efficiently in delivery of service. The next level should be almost a final level for delivery of service in the zones, adequate powers and responsibilities should be given at the zonal level and accountability should be fixed at all the levels. Site visits of the ongoing works and proposed works is the key to the success of decentralization. The inspection by senior level officers ensures quality of work and curbs corruption and puts a stop to unnecessary work.

Transferability

The experience of decentralization of Ahmedabad being very successful can be replicated in other cities with suitable modifications.

Best Practices of the Ahmedabad Urban Development Authority (AUDA)

1. Strategic partnership of AMC and AUDA for comprehensive sewage and sewerage disposal system for western AUDA area

AUDA is successfully executing a strategic project in partnership with AMC, to provide for the sanitation facilities in the western peripheral area of the city.

Situation before the initiative

The cities are growing at an alarming rate, putting heavy pressure on the infrastructure of the city. The situation is particularly critical in the peripheral areas of the fast growing cities, which are developing haphazardly without basic infrastructure. Urban Development Authorities have been constituted whose function is not only to regulate the development but also to provide basic infrastructure in their area. The authorities have limited financial power and have not been able to make significant contribution in this field.

The AUDA, however has been able to tackle a major problem of waste water disposal through strategic partnership with AMC as under as under:

In the western part of AUDA, about 44-sq kms area has developed substantially and population growth in this area has been over 100% in a decade. The census population of this area was about 3.27 lacks in 1991, it has now crossed the mark of over 6 lack. Western AUDA area is growing faster and a lot of residences has come up here owing to the nearness of the city relatively cheap housing and better environment. This area however does not have pipe water supply or underground sewerage system, bore wells are being constructed in each building for the provision of water and cesspools are being constructed for waste water disposal. The AUDA area comprises of several municipalities and Panchayats who are also responsible for provision of basic amenities, they too have failed to provide these services satisfactorily.

Owing to low absorption capacity of the soil and inadequate size of the cesspools, the cesspools constructed in these area start overflowing very fast resulting in overflowing of waste water on the street, causing problems of health, sanitation, and environmental degradation. Several housing societies and Panchayats and urban local bodies had connected the surface drains or low depth underground sewerage system to the lakes and ponds adjoining to their area polluting water bodies.

The critical situation of wastewater disposal of the area led to a public interest litigation direct the authorities to provide appropriate facilities for waste water disposal. During the course of the hearing of the public interest litigation, a strategy

was evolved through which AUDA could provide waste water disposal facilities to the citizens of AUDA at least five years in advance than what they could have normally provided given considering their financial and technical capabilities.

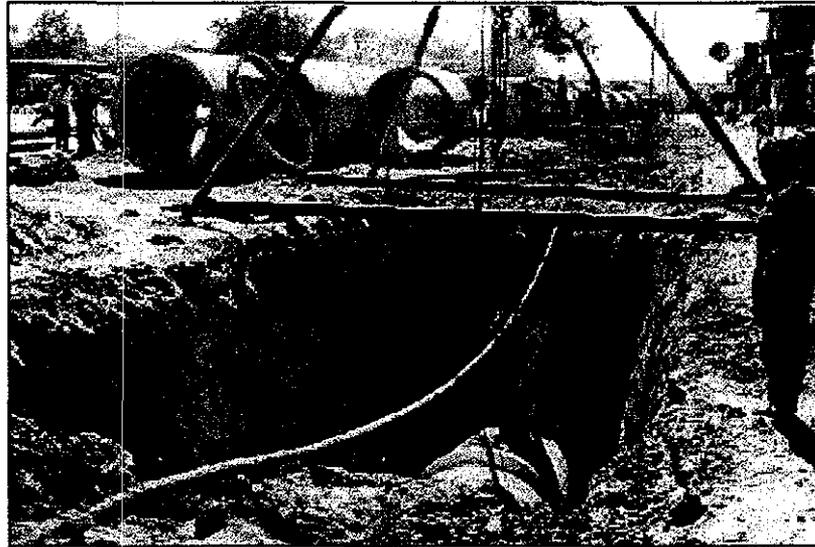


Fig. Laying of drainage pipe under the strategic project of AMC and AUDA

Strategy adopted

It was decided that AUDA would be allowed to utilize the spare capacity of the drainage duct of AMC passing through the AUDA area for a period of 4-5 years. AUDA will be allowed to connect the internal sewers to the main drainage line of the AMC at ten different junctions as and when their internal network is ready. In return of utilizing the AMC's municipal drain, AUDA shall pay AMC service charges according to the formula mutually worked out. It was further decided that, AUDA shall lay its own sewer lines within a period of 4 years parallel to the AMC's sewer lines and would transfer the connections from AMC's sewer lines to its own sewer line as soon as the same is ready.

As the AUDA did not have adequate engineering back up and in-house capacity to carry out a large engineering project and AMC also did not want to take a risk of delays in execution of the project by AUDA. It was decided that AMC shall be the executing agency for the construction of trunk sewer line, pumping station and the treatment plant on behalf of AUDA and AUDA shall pay AMC the required amount from time to time to execute the work.

Finance for the project was one of the major concerns of AUDA. AUDA prescribed one time charge for giving the connection and another charge for Operations and Maintenance.

'Sewer Charge'—This is the one time charge which is taken from the people who avail the connection. The charge is taken on the plinth area basis as under:

S.No.	Plinth Area	Sewer Charge
1	25m ²	Rs. 800/
2	26 – 40m ²	Rs. 1500/
3	41 – 80	Rs. 2000/
4	81 – 150	Rs. 3000/
5	150 onwards	Rs. 4000/

a. Annual Maintenance Charge

- It is taken as 20% of 'Sewer Charge' per years.
- Both these charges helped the laying of sewer line in a phased manner. By now 23 crore has been generated from this charge.

b. Loan from other institutions

- Housing and Urban Development Corporation was approached. And HUDCO agreed to pay a loan of 30 crores.
- Subsidy from National River Conservation Directorate(NRCD)
- It was shown to the NRCD that the Western AUDA area is discharging wastewater into the Sabarmati river. So certain components of the project can be funded for making the river pollution free. NRCD agreed to fund Rs. 38 crores for this project. Every month AUDA is connecting 1000 houses to the drainage system.

Results achieved

The above arrangement worked well and it could enable AUDA to provide underground drainage services to large majority of inhabitants of AUDA in stages and connect the internal sewers to the main trunk line of AMC at six junctions remaining connections are yet to taken.

This has eliminated the problem of overflowing drains as well as environmental degradation in AUDA area.

Lessons learned

- Although the urban development authority had limited financial resources and limited in-house, strategic planning with the help of neighboring city could resolve a major problem of wastewater disposal.
- Beneficiaries must be charged for providing the infrastructure facility as well as user charges, impact fees etc. to sustain the effort.

Transferability

This experience can be replicated in other urban development authorities. Most of the authorities are facing similar situation because of lack of financial and human resources. In such a situation, a strategic partnership with the neighboring corporation can help.

2. Recharging ground water through the development of Vastrapur lake

Old abandoned lake of Vastrapur is being revived to recharge ground water and to develop it as a tourist spot. This will also earn revenue for the local body.

Situation before the initiative

- Vastrapur Lake was abandoned long back.
- All the drainage line of the nearby areas was draining wastewater in the lake.
- The spot had become a nuisance for the people living nearby.
- Ground water was getting polluted because of percolation of the wastewater.

Strategy adopted

It was planned to revive the Vastrapur lake which will help in:

1. Save the area from health hazards.
2. Improve the environment of the area.
3. Recharge the ground water.
4. Revive the old lakes and thus help in restoring natural reservoir system of the city.
5. Earn revenue – by converting the area into a tourist spot.

Following actions were planned:

1. Architectural/landscape design of the area
2. Removing drainage lines from the area
3. Digging out one lack square meter of earth from the lake to deepening it.
4. Increase the catchment area of the lake by digging holes in the nearby areas, as well as by draining the natural discharge of various seasonal drain's (nalla's) in the lake.
5. Rehabilitation and resettlement of the hundred hutment who live on the bank of the lake. Single room-apartments will be constructed on a nearby authority's land for these people. The money for this will be generated from selling shops and restaurant in the first phase.
6. Certain land on the bank of the lake will be reclaimed to develop garden and recreational activities like food joints, sport club, etc.
7. Money generated from the recreational activities of the area will provide revenue to the authority and will pay for the development of the area.

Results anticipated

The construction of the lake is still under pipeline and it is expected to complete by the year-end. It is expected that the revitalization of the lake will:

- Save the environment
- Create hygienic conditions
- Generate revenue for the corporation

Lessons learned

Old lakes, which are destroyed in the process of development, can be revived to save the environment. The activity will be self-sustaining & revenue generating, if planned properly.

Transferability

The idea is transferable to all local bodies that have abandon lakes in their areas.

3. Successful redressal to the objections and suggestion by public in the development plan preparation process

AUDA has successfully integrated the suggestions and ideas of citizens in the revised draft development plan.

Situation before initiative

- The AUDA started development plan process in 1997 with the review of 1987 sanctioned development plan. Following were the steps involved:
- Major shortcomings and achievements in the previous plan were identified.
- The authority organised meetings with various groups i.e. (1) farmer group, (2) trade associations (Gujarat chambers of commerce, IIA, GICEA, GIHED) and (3) Government and Semi-government agencies to take suggestions form them. Meetings were also organised with MPs, MLAs, representatives of district panchayats, local authorities of Kalol, Dehgam, Mehamdabad and Sanand, prominent citizens' etc.
- In collaboration with Indian Space Research Organisation (ISRO), AUDA carried out land suitability analysis of the city by using Remote Sensing and GIS.
- Based on the above Revised Draft Development Plan was prepared, which was published on 27th November 1997.

- Objections and suggestions were invited on the plan, through government gazette and newspapers. People were given two months time to raised the objections. The authority also made presentation at various platforms of the city namely at GIC, GIHED, GCCI and CEPT to propagate the plan.

- AUDA received 35,000 objections and suggestions. Generally it is difficult to address to such a large amount of objections.

Strategy adopted

All the suggestions and objections were sorted and arranged in the order of numbers. Following problems were identified in the plan.

1. 70% objections were regarding the ring road network. Local governments, Khedut Mandals etc. objected the width and the alignment of the ring road.
2. Rational behind the whole plan was questioned by various institutions.
3. Slum redevelopment scheme for weaker sections and women were lacking in the plan.
4. Literature in Gujarati was demanded.
5. Various suggestions were received for improving the TP schemes (reservations and deductions in the planning process), open spaces in the city etc.

AUDA responded to the objections with the help of a consultancy firm in the following manner:

1. Ring road width and alignment was changed.
2. Policy was formulated to acquire land through TP schemes mechanism in equitable manner.

3. The objectives and proposals of the plan were clearly stated.
4. Specific details of the development control regulations were reviewed. The provisions for FSI and gross FSI were simplified.
5. Land use zoning was revised in relation to the new road network.
6. The development plan literature was published in Gujarati.

Results achieved

After doing the changes the objections reduced from 35000 to 100.

Lessons learned

It is important to have consultative process and integrate useful suggestions of the public in the development plan. Careful analysis of the problems can help in solving them.

Transferability

The process is fully replicable in other local bodies who are preparing the development plans of the city.

Surat

City Profile

Best Practices of the Surat Municipal Corporation

1. Administrative reforms.
2. Cleaning the city -Achieving full efficiency in the SWM
3. Preventive, curative & promotive health campaign.
4. Slum Improvement
5. Widening of roads for sustainable development
6. Steps for disaster management
7. Privatisation of the municipal services

Best Practices of the Surat Urban Development Authority

1. Development of Chaupati Area for recreation and as a means of earning revenue

Surat

Surat is the second largest city of Gujarat. It is an important industrial centre of the country. The city houses 70% of the nations' & 42% of the world's total rough diamond cutting & polishing business. It is the country's Oman made fabric producing area. Surat was marked by rapid industrial and commercial growth in the post independence period. This invited migration from the state as well as the country – leading to a phenomenal population growth (about 60%). Today the total population of the city is 1.8 million and its area is 112.27 sq.km. Concerted efforts made by the city corporation to combat the outbreak of plague has transformed the city into the second cleanest city of India. The city has taken a number of steps for the improvement of urban governance. The Dubai international award for “Best Practice” awarded to SMC by the UNCHS on the occasion of world habitat day has added feather to the steps of the Corporation

Location and linkages

The city of Surat is situated on the southern bank of river Tapi having the coastal line of Arabian sea in its west. It is 13 meter above the mean sea level and forms the major urban core on the Ahmedabad-Bombay regional corridor, centrally located at a distance of 260 km. north of Bombay and 224 kms. south of Ahmedabad. Surat is well connected to one of the busiest inter state trunk route in the country known as national highway no. 8. and is also connected by road and rail with the major cities and towns of the state and the country.

Demographic profile

Surat is the second most populated city of Gujarat, according to 1991 census. The Surat Urban Development authority has an area of 722 Sq. Km. (including SMC area of 112.28 Sq. Km.) and population of 17.91 lakh (including 14.98 population of SMC area.) The Population growth of the city shows decadal growth of 68.04 % in the year 71-81 and 56.96% in year 81-91.

The concentration of population is mostly in the Corporation area with maximum concentration in the walled city area. Some of the wards in the city area such as Wadifalia, Gopipura are having density of population as high as 988 person per hectare, while the peripheral areas of Rander-Athwa etc., are having the density of about 35 persons per hectare.

Major industries and institutions

The city is a main centre for the economic activity in the entire south Gujarat region of the state. Along with the intensive concentration of industrial, trade and commercial activities in the city region, the city and its hinterland have been blessed with rich agricultural land with intensive irrigation facilities.

The development has mostly been in the traditional industries viz. Jari, art silk and diamond cutting and polishing industries, which play a pivotal role in the district economy. Besides, this diversification from these traditional industries has also taken place in number of industries viz. plastic, chemical, including dyes, engineering, metallic yarn, etc. Besides in the medium and large scale sector a number of units of textile processing, phosphoric fertilizers, cotton, rayon, nylon yarn, fluorine, chemicals, citric acid, machine tools, electric fans etc., have been established.

Planning efforts in the past

The city was originally established on the bank of river Tapi, a castle on the eastern bank of river with a custom house on northern side of the castle. In the beginning the activities were concentrated within the inner wall which was constructed in the year 1664.

Established in 1853, the municipality of Surat covered an area of 7.36 sq. kms. Its status was upgraded to that of Municipal Corporation, later on covering an area of 24.01 km² In 1978 Surat Urban Development Authority was established. It has total area of 722.00 Sq. kms including S. M. C. area. The city is divided into two parts, the old and new. The old city pattern developed with administrative units at Chowk, on bank of the river Tapi. Trade and business function was concentrated in Chowk Bazar and Mulla Chowk. The inner Wall City was mostly developed as an administrative centre and as a specialized market. While the outer walled city had mixed land use.

Best Practices of the Surat Municipal Corporation (SMC)

Once the 'city of dirt'-Surat is now said to be the second most clean city of India. The corporation took series of initiatives to achieve overall improvement in urban governance such as administration, solid waste management, slum improvement, urban finance, infrastructural services etc. Firm determination and hard administrative measures have contributed to the success

The city of Surat is expanding at a tremendous pace due to industrialisation. Slums have grown all over and there was shortage of infrastructural facilities. The Municipal Corporation was unable to cope up with the growing demands of infrastructure. The situation was deteriorating very fast and soon the city was called the 'City of Dirt'.

In 1994, an epidemic of plague broke out after the incident of flood. First case of highly contagious plague was reported on September 21, 1994. The epidemic is believed to be originated in Latur. Surat presented ideal condition for its rapid spread on account of its prevailing filthy environment. The so-called 'pneumonic plague' in the city caused 58 sudden deaths and 800 suspected cases. There was wide spread panic in the city. Several citizens left the city for safety. Most textile, diamond and chemical industries were closed resulting in estimated financial loss of Rs. 800 crores. Local administration, with its limited in house capabilities and lack of endeavors, was incapable of controlling the situation. Garbage was visible everywhere. Alarmed at this situation, the Government of Gujarat decided to launch a major program to clean up the city. The situation was than controlled.

The corporation thereafter took concerted measures starting from May 1995 to prevent further outbreak of diseases. Contributing factors for the situation were identified and strategy was formed to improve the situation. Following initiatives were taken by the SMC:

1. Administrative reforms.
2. Cleaning the city -Achieving full efficiency in the SWM
3. Preventive, Curative & Promotive Health Campaign.
4. Slum Improvement
5. Widening of roads for sustainable development
6. Steps for disaster management
7. Privatisation of the municipal services

1. Administrative Reforms

SMC has improved the administration substantially, which is the ultimate reason of improvement in all the spheres of urban management.

Situation before the initiative

- Poor administration
- Demoralised staff
- Inefficient grievance redressal system

Strategy adopted

To improve administration the powers were decentralised and effective co-ordination was fostered through daily meetings. Following steps were taken:

a. Decentralization

- The city administration has been decentralised into six zones and zonal officers head them.
- The Municipal Commissioner has handed over many of his financial and functional powers to the zonal officers. However, responsibility of work is shared between the Commissioner and zonal officers.
- Revenue collection, operation as well as management of revenue collection, operation and maintenance of essential services such water supply, drainage, SWM etc. are carried out services for the whole zone are carried out at the zonal level.
- Citizens generally do not have to go to the headquarters of the Corporation to pursue complaints. It is registered at each zone.
- In the zonal offices, space is provided for local municipal councillors. This helps them to interact with the citizens.
- The six zonal officers are empowered to sanction works up to 2 lakh and autonomously handle matters pertaining to their zones.
- Decentralisation has improved the efficiency of the system and has brought governance closer to the people. This is further helping in achieving the objectives of the 74th amendment bill.

b. Co-ordination

- A co-ordination committee consisting of the Municipal Commissioner, zonal officers and Heads of the Departments of SMC meet every working day in the afternoon.
- In these meetings, critical issues such as solid waste collection, leakage of water supply and quality of water supply are discussed.
- Specific issues such as tax collection performance, tree planting, street lighting, contagious diseases like malaria etc are also discussed once a week in the meetings.

- These meetings are conducted in a business like manner and the officers participate regularly.
- All important decisions are jointly taken in these meetings

c. Better public grievances redressal system

- Complaints are categorised into 4 categories based on the severity of the problem-1) 24 hours, 2) 48 hours, 3) 3 days, 4) 7 days.
- Those who complain at the sanitary work office, are given specific coloured cards, in which the details of the complaint are written. Thus if work is not done in right time the citizens can go to the corporation and question the delay.
 - Red cards are to be answered within 24 hours. It deals with 13 public health engineering. related complaints
 - White cards are to be answered within 3 days to 7 days. It deals with 14 categories of sanitation and public health related complaints

Results achieved

- 96% of the complaints are attended in the given time limit.
- Administration is improved, which is evident in the success of various initiatives of SMC.
- Staff is enthusiastic because of the powers given to them

Lessons learned

- Decentralisation helps in addressing the local problems speedily and effectively.
- Daily field visits by all senior officers, and micro planning is necessary for improving the administration.
- Co-ordination between staff members is essential for efficiency.
- Confidence and support of the people can be won by being fair & transparent in the policies.
- Complaints should be monitored regularly.

2. Cleaning the City - achieving full efficiency in the solid waste management

The incidents of outbreak of Plague epidemic forced the state authorities to pay attention to the problems of Surat. As a result, after May 1995 the Surat Municipal Corporation undertook a stringent programme of cleaning the City

Situation before the initiative

- Inefficient garbage collection with backlog of hundreds of tons
- Low public health awareness and lack of civic sense amongst the citizens

Strategy adopted

Following objectives were kept for the SWM department:

- Increase garbage removal from 400 TPD to 850 TPD
- Increase the number of garbage bins from 400 to 984

- Create awareness in the public

1. Additional manpower and material for SWM department

- In 1994 there were 3000 sweepers working in the SWM department. 1100 more sweepers were recruited in May 1995 apart from taking daily wagers. At present there are 4547 sweepers in the city.
- The equipments in the health department were upgraded. Two loaders were provided in each zone. Two front & back loaders were purchased for the central health department.
- Three new dumping sites were identified.

2. Administrative Measures

- The administration of SWM is divided into six zones and 52 sanitary wards. An accelerated campaign was undertaken to clean sewage lines and septic tanks.
- Micro-level planning was carried out for solid waste management in the 52 sanitary wards of the city. Street sweeping and garbage collection was very closely and regularly supervised. This led to scientific and equitable transfer of resources to all the sanitary wards.
- It was made mandatory to clean the streets daily, - twice in the morning and evening.
- Group Safai” (Group cleaning) consisting of 10-15 sweepers and supervisors was started.
- Till May end (1995) all the senior officers of health department and supervisory staff worked overtime to make the city clean,.
- Strict actions were taken against those who were not working. If sweeper was not found working, then charge sheet was charged against the supervisor. Notices were also issued against the corrupt and lazy workers.
- Strict actions were taken against those sweet shops, hotels, restaurants, food joints etc., who were throwing their waste on road. Strategically, the actions were taken first against the big concerns & later on the smaller ones.



Fig. Removal of hazardous waste

3. Monitoring

- There is one central office, 6 zones and 54 wards in the city.
- Each ward has one ward officer, one sanitary inspector and two sub inspectors, three or more Mukadams; 60 or more sweepers.
- The sanitary inspector collects the information of previous day's work. It takes him only 10-15 minutes to fill the information in a preset proforma in the

computer. He reports to the sanitary officers at zonal office. All the wards' information is collected at the zonal office through soft copy (floppy disk) which is then collected in the main office.

- All the senior SMC officers including the commissioner spend morning hours 7.30-12.30 in the zonal offices. This has encouraged the lower cadre of officers to work.

4. Administrative Charges/Penalties/Public Awareness:

After improving the working of the health department, the Corporation took following steps to maintain cleanliness & create awareness amongst the people:

- All the food joints were directed to store the waste at source and dispose off their solid waste in the prescribed manner. In case of default, they were charged heavily.
- All the individuals who threw solid waste in open areas were charged Rs. 50.
- Then drive was initiated from commercial establishments. Later on the campaign was extended in the residential areas. People not only co-operated but also appreciated the efforts of SMC.

5. Privatisation

SMC has deployed private contractors for solid waste collection and transportation. They are undertaking (a) garbage collection and its transportation to disposal sites, (b) scrapping/cleaning of busy streets.

(a) Garbage Collection and Transportation Contractors:

In all areas of the central zone and some parts of the western zone, private contractors are undertaking the activities of road sweeping, garbage collection and transportation. The contractor has to lift garbage daily from the specified dust bins/nuisance points. In case of failure of lifting the garbage, SMC can charge a penalty, which varies, between Rs. 50 to 500. The contractor has to engage sufficient labourers and vehicles to carry out the work. Preference is given to firms who have experience of one year in this activity. The contract is for one-year period. However, it can be terminated giving 30 days notice.

One contractor is carrying out this activity in the city and is utilising 20 vehicles and two loaders. SMC is paying Rs. 130 per metric ton of garbage brought to the disposal site. For payment purpose, a maximum load of 4 metric ton is considered. This clause has been introduced to limit loading of vehicles



Fig. Scrapping of busy roads

with brickbats and other construction debris.

(b) **Scrapping of Busy Roads:**

Private contractors are entrusted the work of sweeping and brushing of roads, collection and transportation of garbage to the disposal site. Terms and conditions are similar to garbage collection and transportation contract. About ten contractors are carrying out this activity in different zones of the city. The contractor is paid Rs. 0.70 per square meter of road. It may be mentioned here that the contractor has to sweep the whole road but he is paid only for 0.75 square meter on each side of road and 0.30 square meter on each side of the road divider.

(c) **Garbage Transport Contractors:**

SMC is also giving contracts for transportation of garbage to the disposal sites. The contractor has to provide vehicles with driver and the corporation staff is utilised for loading and unloading of garbage refuse. SMC is making payments of Rs. 500 to 600 per day per vehicle. About 40% of the total garbage is transported by the private contractors.

Results achieved

- The innovative steps taken by SMC in solid waste management have brought about visible changes in the city. It is now identified as one of the cleanest cities in the country.
- Before-May 1995, the level of solid waste collection was 30%. With micro planning efforts and an additional 10% investment of funds, about 93% of solid waste is collected daily.
- 95% of streets are cleaned every day.
- Market areas, major roads & litter prone spots are cleaned twice a day.

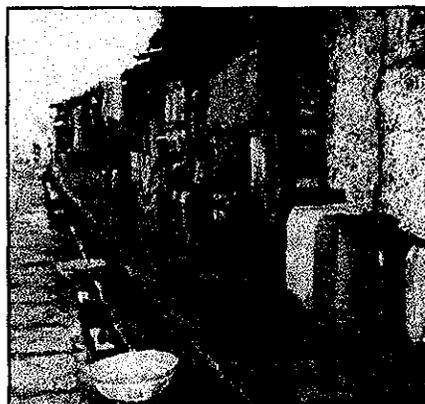


Fig. Effective waste management in slums.

Lessons learned

- Decentralisation of administration, adequate delegation of powers, micro level planning, motivation of staff and public participation can give exemplary results.
- Enforcement is the key to success.
- Efforts must be made to include people in implementing clean up programs
- The effort of privatisation and contracting out of services would be sustainable only if contracts are given keeping in view the provisions of Contract Labour (Regulation and Abolition) Act 1970.
- Public support comes when people see tangible change and benefit from such change.

Sustainability

Only 60-65% population of Surat is aware of SMC's efforts. For the remaining 20-25%, public awareness camps are being organised. Success is not upto the mark because of illiteracy and cultural habits of particular communities.

Transferability

Almost all the local bodies face problems in cleaning their cities. This experience is transferable in all the urban local bodies except that they must ensure the adherence to Contract Labour (Regulation and Abolition), Act 1970, before awarding contract for SWM services.

3. Preventive, curative & promotive health campaign

SMC has taken an initiative to open up Urban Health Centres (UHCs) to monitor and prevent major diseases and epidemics in the state.

Situation before the initiative

- Out break of plague in 1994
- Surat contributing to the 50% of the malaria and morbidity cases

Strategy adopted

- The main function of UHC is to prevent diseases in the city. The concept is similar to have Primary Health Centers (PHC) with more stress on the preventive and promotive aspect of health management in the city.
- Daily monitoring and reporting of water borne and water related diseases was started at all UHC.



Fig. Spraying insecticides as a part of health campaign.

- Epidemic control and surveillance facility established 250 private practitioners 19 UHC, 8 Major Hospitals and published the list, in the interest of public.
- Budgets for UHCs was increased significantly
- Spraying and fogging was increased by 200% to control mosquitoes in the city

Results achieved

- The General Practitioners Association and Consultant Association of Surat claim that their practice has been reduced by 60%.
- Not a single case of Dengue, Poliomyelitis, NNT & Cholera was reported.

- Gastro-enteritis cases down by 63%, & deaths down by 95%
- Enteric fever cases down by 62%.
- Pneumonia cases down by 60%.
- Malaria cases down by 75%.

Lessons learned

Cleaning of the city and constant monitoring and corrective measures can reduce the health problems of the city considerably. Urban Health Centres for promotive and preventive aspects are useful in big cities.

Sustainability

Apart from the above steps, following steps were also taken:

- Daily monitoring of diseases.
- Maintaining efficiency in SWM
- The corporation will run a new medical college soon.

Transferability

All big cities having unhealthy living conditions can similar initiatives and improve health and sanitation of the city.

4. Slum improvement program

SMC has started a major slum improvement program with the help of many organisations.

Situation before initiative

- Most of the slums in Surat are situated on state government or SMC land and most of the slum dwellers are tenants of slumlords, who had occupied lands unauthorisedly.
- The percentage of the slum population to total population in Surat is about 28%. The slum population is distributed over 225 slum locations.
- Poor sanitary conditions of slums. The slums lacked basic amenities such as water, sewerage, toilet etc.



Fig. Poor sanitary condition in slums before the slum improvement program

Strategy adopted

- Since 1991, SMC has started paving internal streets of slums with Kota stone. Most of the slums are now paved.
- Surface drains are also constructed in the slums.

- To prevent open defecation SMC has launched a program of construction of toilets in slum areas. More than 40 Pay and Use toilet complexes have been constructed with the help of Non-Governmental Organisations.
- The slums are kept clean and garbage is collected regularly by sweepers.
- As SMC is not in a position to give tenure rights to the slum dwellers, the Corporation is planning to give them "Occupancy Certificates". This will give them right to occupy the lands. SMC has started numbering all the slum dwellers for identification of the occupier.

Results achieved

Environment of the slums had improved considerably and quality of life has also improved in Surat.

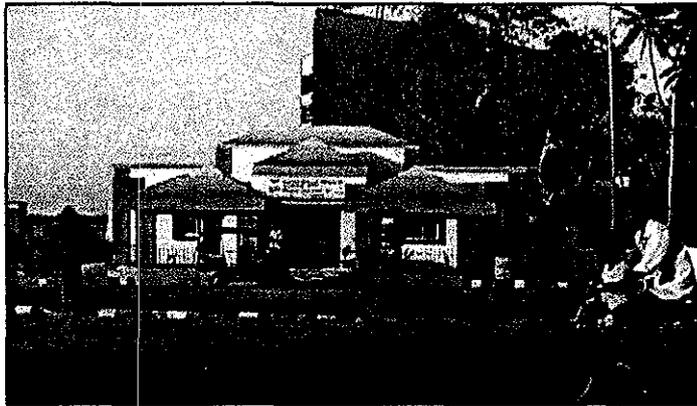


Fig. Improved sanitation facilities in slums

5. Widening of roads for urban renewal– the case of self demolition

SMC has successfully widened congested roads of the city with people's participation.

Situation before the initiative

- The whole city was congested due to its location on the Bombay-Ahmedabad highway and the location of industries in the area.
- The BPMC Act authorizes the civic bodies to prescribe alignments and take possession of land for road widening.
- Corporation has the power to demolish the encroachments as per the development plan. But on various grounds, the alignment proposals get challenged in the courts and the Corporations efforts get halted. In 1982-1983, the corporation carried out its last demolition activity. Thereafter for a period of twelve years no attention was given to the issue.
- Congestion in the city was causing environmental problems apart from raising fatal accidents on the roads.



Fig. Demolition drive

commercial complexes initially created much uproar, opposition and protests.

- The corporation attacked illegal constructions of highly influential people. Targeting big guns in a bit high-handed way and not yielding to pressures.
- The drive and commitment of municipal organisation won the people's confidence. Self-demolition started on a massive scale. The speed and extent of demolition was at high peak in the later half of 1995. Thereafter, the work continued in 1996 at a slower pace.
- Most of the demolition on Raj Marg (main arterial road of the city) was voluntary, though the civic authority was strict and determined. Self-demolition was inspired by winning people's confidence and by skilful, diligent, painstaking negotiations.
- Following are the major characteristics of the event:
 1. The event established wonderful efficacy of committed authority. It showed that if civic authorities are sincere, impartial and daring to do the right thing in right earnest, then most of the tasks are easy.
 2. The litigation, resistance of wealthy shopkeepers and meddling of politicians clearly illustrated the universal difficulties in implementing town planning schemes, drives for removal of encroachment and even land acquisition proceedings.

Results achieved

- The force generated by interest of common man was so irrepressible that everybody had to stand aside and let the events

Strategy adopted

- It was decided by the corporation to take up a drive to remove encroachment on the roads.
- The state government backed this drive and it started with attacking illegal constructions, encroachments etc. The demolition of high rise buildings and other

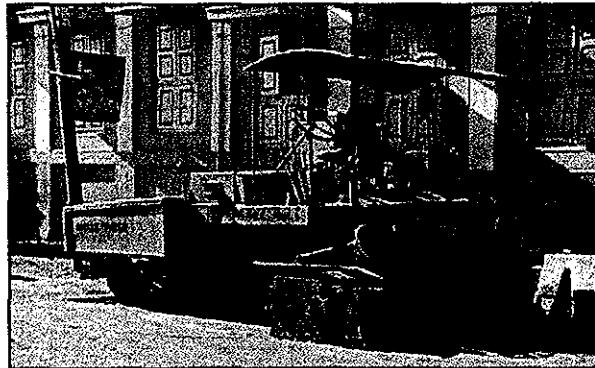


Fig. Widening the roads after the self-demolition.

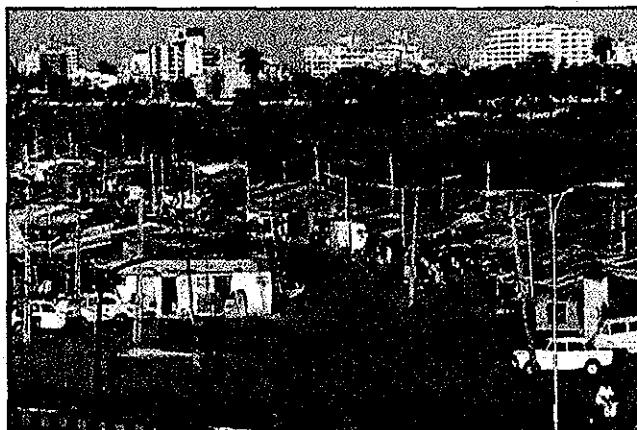


Fig. Congestion has reduced on roads after the initiative

- take its natural course.
- The Corporation could widen 42 km of road. Following are the benefits experienced by the citizen after the demolition drive:
 - The congestion on Raj-Marg and on Surat-Navsari Highway in Udhna-Darwaja to Bestan Section
 - was resolved. Incidence of
 - traffic jam, which was a usual occurrence on these arteries, smoothened.
 - Narrow lanes were transformed into wide roads. Moreover, junctions became quite large and open.
 - Lots of land came under the purview of systematic planning suitable to compatible uses.

6. Steps for disaster management: The story of combating September 1998 flood.

The Corporation tackled the 1998 flood situation efficiently with the help of strategic planning and disaster management plan

Situation before the initiative

- Surat is located on the bank of perennial river Tapi. Sea is only 15 km from the city. Such a strategic location has made the city to face natural calamities like floods and cyclones.
- After commissioning of Ukai Dam (constructed keeping in view the effect of devastating floods in past), floods in Surat was a past history till 1994.

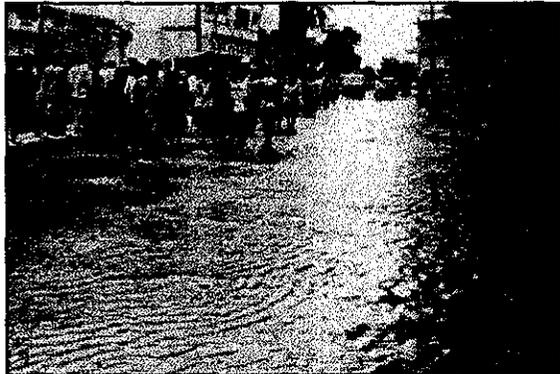


Fig. Incident of flood in 1998.

Strategy adopted

Looking to the past history of floods, it was decided to prepare a disaster management plan for flood. The Corporation and other governmental agencies were already taking steps for forecasting floods & developing relief measures; but the preparation of flood report and action plans were also thought to be necessary. Following set of objectives were fixed for the same:

1. Setting mechanisms to get the information of likelihood of flood.
2. Benchmarking and declaring the action plan of the SMC during the flood situation.
3. Public information and awareness programs before, during & after the incident of disaster.
4. Step by step evolution of the disaster management plan

- From the flood of 1994 many things were learned. Things were rectified and measures to be taken were recorded. Flood control Cell was set up with a main office and 6 zonal offices in the city.
- On 15th September 1998 at 22 Hrs-23 Hrs level of water in Tapi river at Hope Bridge rose from 89 feet to 91 feet. On 16th September all the three bridges on the river were closed. On 17th September, whole city was under the influence of flood.
- The Corporation tackled the situation efficiently with the help of strategic planning and disaster management plan. All the possibilities of breaking up of epidemic, etc were overruled and the life in the city was reassumed in two days. Action taken during the flood are as follows:

Before Flood

1. Public was given information regarding the flood situation before hand through sirens, Radio, TV & Vehicles.
2. Control rooms with the availability of senior officers were opened round the clock.
3. All the Dy. Municipal Commissioners/Senior Officers were given charge of 6 zonal offices while Commissioner co-ordinated from the main control office.
4. Fire & Reserve teams were kept ready
5. Relief centres (safer places) were identified
6. Deployment of boats/reserve teams/Fire brigade
7. Outside help was to be taken if required

During the flood

1. Opening & management of relief centres
2. Providing food (hygiene quality), water and medical relief

Restoration/Post flood period

1. Sanitation and conservancy measures
 - Collection and safe disposal of dead animals
 - Removal of perishable food items
2. Awareness (Information, Education and Communication) programs for Public were undertaken with the help of NGOs, TV Channels and community participation
3. Epidemic preventive measures:
 - Potable water restored
 - Distribution of chlorine tablets
 - Super chlorination of water
 - Cleaning of underground and overhead tanks of public buildings
 - Water was supplied through water tanks where there was shortage of water
 - Water leakage detection and repairing
 - Spot water quality monitoring and sampling
 - Active surveillance of water borne diseases
 - Medical team of a medical officer, nurse, lady officer & vehicle were sent to flood affected areas for curing diseased persons, distributing medicines, vaccinations, collecting blood samples etc.
 - Special attention was paid for civic services and public grievances (i.e. road repair, drainage cleaning and water supply)

- Administrative measures
- Cancellation of staff leaves
- Temporary recruitment of 'Safai kamdars'
- Hiring more equipments

Results achieved

- The city could come well out of the clutches of flood without causing many problems
- After the flood, water supply was resumed in the city within 24 hours
- 60% of the sewerage system was resolved in 24 hours and 100% in 72 hours
- 34,000 MT (approximately 80%) of the solid waste was disposed off in these days

Sustainability

After the incident of the 1998 flood, Flood report 1998 was prepared & Disaster Management Plan was improved.

The Town planning department is now preparing a flood management plan on GIS. Through this plan, the approximate affected area can be known based on the level of water in the river. With this information, relief centres & other strategic action plans can be adopted.

The main features of the Disaster management plan are documents should be:

- a. Pre disaster management plan
 - Developing system to monitor & inform the crisis before hand
- b. During disaster management plan
 - Action plan with the address/phone number & duties of the in-charge officers
 - Strategic Plan for step by step renewal of the original situation.
- c. Post disaster management plan
 - Preventive measures for disease prevention & monitoring.
 - Special attention to civic services & public grievances.

Disaster management plan can be prepared not only for flood, for gas leakage, fire epidemic etc.

Transferability

The cities which are facing disasters or likely to face disasters can prepare Disaster Management Plan stating their plan of action in the hour of crisis.

7. Privatisation of the municipal services

Surat suffered from outbreak of plague in 1994 causing major financial losses to the city. After the outbreak of the plague, Surat Municipal Corporation (SMC) instituted a number of steps to build in efficiency and effectiveness in the urban management system. These innovations also involved privatizing some of the municipal services

Following are some of the services privatized by SMC:

Management of water treatment plants

SMC has constructed a 120 MLD water treatment plant at Katargam in a record time period of one year. The project was tendered, supervised and managed by SMC. At present, SMC has given a management contract for the operation and maintenance of four water treatment plants to private contractors. The contract has been awarded for one year to a local environmental engineering company through tendering process. The SMC staff regularly monitors quality of the water supply.

Street lighting

SMC had given operation and maintenance of streetlights to a private electricity distribution organization, Surat Electricity Company (SEC), on a five-year management contract. The level of these services in Surat had improved since SEC had taken over the system for two years. There was a fine if a street light was not repaired within 72 hours. However, the contract was terminated by SMC as it was paying a higher charge per pole than that of corresponding figures in Vadodara and Ahmedabad Municipal Corporations.

Water distribution through tankers

About 20% of the areas of Surat city are not covered by piped water supply. These areas are provided drinking water through tankers. About 25 private tankers are utilised for this purpose. Each tanker makes 8 to 10 trips per day. It is paid at the rate of Rs. 126 per trip. Pre-identified local leaders in the low-income area have to certify daily that water has been provided to the community. Annual expenditure on private tankers is as high Rs. 1.5 crores.

Weir cum causeway construction

The Government of Gujarat, SMC and major industries of Surat have constructed a weir (small dam) on the river Tapi. Major industries like Reliance, Essar Gujarat, NTPC and ONGC constructed and financed the Rs. 36 crores project. SMC is responsible for maintenance of the weir. Industries are permitted to draw a certain amount of water from the weir free of charge. This is a good example of public-private partnership in the water supply sector.

Tree planting

SMC has contracted out to private organizations free planting on some roads of the city. Contractors are paid over a period of three years based on survival of the trees. There is a built-in incentive to take good care of the trees.

Best Practices of the Surat Urban Development Authority (SUDA)

1. Developing “Chaupati Area” for recreation as a means of generating revenue

SUDA has taken up the development of Chaupati area on the bank of river Tapi. Following measures have been taken up by the authority:

- a. Formal shops will be provided to the informal vendors. This will increase the revenue generation as well as order in the area.
- b. Land will be given on lease to the shopkeepers for construction of shops in the area.
- c. Development of major road connecting the city to the Chaupati is under construction.

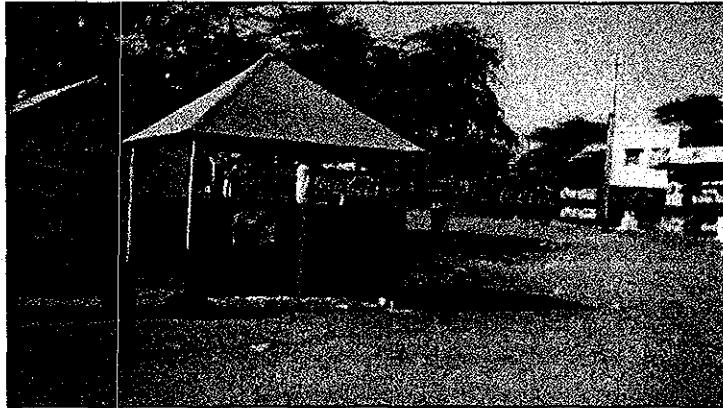


Fig. SUDA has provided shades informal vendors

Vadodara

City Profile

Best Practices of Vadodara Municipal Corporation (VMC)

- 1. Financial Reforms of VMC – the story of improving the Budgeting system and financial controls of the Corporation by minute scrutiny and strategic planning.**
- 2. Energy Auditing of the water supply pumps and mains**
- 3. Mechanization of street lighting system – Introduction of Remote transmission unit**

Best Practices of Vadodara Urban Development Authority (VUDA)

- 1. Social awareness programs**

Vadodara

Vadodara is the third largest city in the region after Ahmedabad and Surat. It is an ancient town founded on the bank of river Vishwamitri. It was one among the major kingdoms of western India and an important administrative centre on the grand trunk trade route. Mauryas, Guptas, Chalukyas, Solankies, Marathas and Britishers ruled the city. In the nineteenth century, it emerged as a well-planned, educational and cultural capital, with the efforts of Maharaja Sayajirao Gaekwad and Sir Patrick Geddes.

Establishment of major industries like Indian Petro Chemical Limited, Heavy water plant, Gujarat refinery etc. has contributed to the growth rate considerably. Today it is a big centre of education with Maharaja Sayaji Rao University (MSU) and other esteemed institutions.

Location and linkages

The city is situated on the Bombay-Ahmedabad and Delhi railway route, 120 kms away from Ahmedabad. Its western boundary is defined by seacoast and eastern by hills and underdeveloped terrain. The city lies in the middle of the major transportation corridor, linking Gujarat with the rest of the country. It is a terminus railway station. The city has sound air links with Ahmedabad, Bombay and Delhi.

Demographic Profile

The population of Vadodara agglomeration is nearly 18 lakh. The population of VMC was 10,21,084 and that of VUDA was 3,27,234 in 1991. The area of the VMC is 108.22 sq.km. in 1991. Population is growing at a decadal growth rate of 39%. It is estimated that by the year 2011, the population will become 20,72,800 in VMC and 547898 in VUDA totaling to 26 lakh.

The inner core areas of the city are smaller in size but is densely populated. The density of the population in 1991 varies from 9,386-persons/ sq.km. 66,690-persons/ sq.km Density of peripheral wards is going up.

Major industries and institutions

Major industries in Vadodara include Indian Petro Chemical Limited (IPCL), Heavy water plant, Gujarat refinery, GSFC etc. Maharaja Sayaji University (MSU) is one of the oldest universities in India.

City development

The first known settlement was known as Ankotaka, which later became muslim headquarter known as Vadptraka. The city grew under the rule of Gaekwads in the 18th century into a prosperous town. Sir Sayajirao Gaekwad, the visionary ruler of

Vadodara employed many experts from within and outside the country. Sir Patrick Geddes gave the concept of garden city with lakes and tanks. Fort area and Laxmi vilas palace were the important nodes. During this period, a number of cultural and educational institutions, bungalows etc. were developed.

The Vadodara municipality prepared first town planning scheme in 1959. In 1970, after the formation of Vadodara Municipal corporation, first master plan was prepared for the entire city.

Vadodara Urban Development Authority (VUDA) started functioning from 1st February 1978. It covers an area of 714.56 sq.kms. including VMC and covering 104 villages. VUDA has taken up several town-planning schemes around the periphery of VMC.

Best Practices of Vadodara Municipal Corporation (VMC)

1. Financial Reforms of VMC

VMC has introduced a number of steps to improve the municipal budgeting and financial control system.

Situation before the initiative

Following were the major drawbacks of municipal budgeting system:

- 1) Excessive reliance of incremental Approach: The budget estimates prepared on the basis of past year's figures were on an incremental approach. The result was that the Corporation allocated budget to various items / activities without verifying whether a particular item/activity is
- 2) Absence of overall targets/ceilings: Financial estimates and figures were budgeted without having any overall targets or ceilings beforehand, causing heavy demand on sources of funds.
- 3) Absence of proper resource allocation mechanism: In the Corporation budget there was no inbuilt system of resource allocation to correct the development imbalances of various parts of the Vadodara city.
- 4) Excessive reliance on Deficit Financing: At the end of year, receipts fell short of projections and expenditure exceeded the allocation resulting into heavy deficit.
- 5) Spending Psychology: The unutilized Budget of revenue expenditure items lapsed at the end of the accounting year. This encouraged the tendency for spending as much possible and using up the budget grant.
- 6) No distinction between various natures of expenditure: Distinction between Revenue and Capital was not correctly followed.
- 7) Improper classification of budget: There was a lot of overlapping and duplication of budget items.
- 8) Non-charging of in-house services provided: There was no definite procedure worked out for inter departmental works and services rendered in-house. Such expenses were budgeted without any detailed workings.
- 9) Non-allocation of loan charges to respective services: Loan charges/interest payments and repayments of debt are shown as the expenditure of the accounts department.
- 10) No importance to Revised Budget formulation: Budget was never revised seriously at the end of six months. Normally the revised budget figures for the next six-month were derived just by reducing the actual amount booked from the annual target of current year.
- 11) Lacked long-term perspective: The corporation's budgeting exercise lacked long-term perspective because the Corporation never prepared a medium or long term developmental plan for the entire city.
- 12) Non-linking of Financial and physical outlays: Nowhere in the budget, list of development works / targets to be achieved were linked to any budget allocations.

Major drawbacks of Municipal Financial Control System

- 1) Absence of Centralised Financial Control: The lack of co-ordination among Budget, Audit and various Service departments lead to more expenditure than budget allocation.
- 2) Non-classification and analysis of expenditure: Expenditure was never classified in terms of very essential, necessary, deferred and discretionary on monthly, quarterly and yearly basis. As such analysis was not undertaken, it was very difficult to ascertain minimum resource requirements on short-term and long term basis.
- 3) No advance intimation of expenditure: There was a Lack of a system information exchange between Accounts department and other departments about likely cash-outflow required. Thus payment bills of huge amount used to come to the accounts department without prior notice and without sufficient time to make necessary money arrangements.
- 4) Defective bill movements system: There was no time limit within which the bills for the works completed/supplies shall be prepared.
- 5) Defective tendering procedure: Separate tenders were called for every work however small it was, thus resulting into excessive administration and accounting work.
- 6) Lack of short term funds requirements: There was no proper system of cash management, working capital management and bills movement, it was not possible to forecast short-time financial requirements of the Corporation on weekly, monthly and quarterly basis.
- 7) Excessive operation through Suspense Account: There existed a system of incurring expenditure by drawing advances against the budget allocation.
- 8) Excessive use of the Advance mode of Payment: Departments use to draw advances for each and every payment to avoid all sorts of procedural requirements/formalities.
- 9) Failure to pass adjustment entries: Departments showed lethargy to pass on necessary adjustment accounting entries after supplies were received/works completed.
- 10) Exclusion of advances from budgetary control: Advances drawn were not debited against the allocation made in the respective budget items. This flow allowed the departments to spend more money than what was allocated in their budget items

The defective budgetary, financial and accounting systems, slowly and silently, brought downfall of the VMC. The eighth decade (1981-1991) turned out to be the worst for the Corporation. Its developmental expenditure (Capital formation) declined year after year and reached to the lowest ever in 1990-91. During the whole decade the Corporation could not undertake/complete any major development project or could not augment its urban services substantially. Consequently per capita availability of all the urban services declined continuously over the years.

Strategy adopted

All these factors compelled the Corporation to undertake budgetary cum financial reforms.

- “White Paper” was prepared by the Corporation as an attempt to enlist all the development works pending at various stages with information about estimated financial outlay required to carry out all these works.
- The Corporation matched this information with the budgetary allocations made for development works for the year 1991-1992 and the actual financial position.
- In this document the Corporation forecasted/enlisted major development works/projects required to be undertaken to ensure a balanced development of the City.
- Preparation of the “White Paper” and the “Master Plan” provided the much needed clarity and focus to the Corporation’s development planning and an information about where exactly the Corporation stands. On the basis of the Corporation undertook its historical and unique endeavour of budgetary and financial reforms.

Budgetary Reforms

- 1) Reorganised Budget: The Corporation, as the first step, segregated its income and expenditure items according to their nature (revenue/capital) and their sources of finance (revenue, capital, loans, deposits etc.)
- 2) The Corporation bifurcated budget into five parts
 - Revenue Budget
 - Capital Budget
 - Loan Budget
 - Deposits/Grants Budget
 - Advances Budget

Such an elaborate source-wise and nature-wise bifurcation of receipts and expenditure brought clarity and simplicity to the Corporation’s budget.

- 3) Judicious application of budgeting techniques: Adopted multi-budgeting technique strategy to budgetary planning, implementing and controlling activities.
- 4) Streamlined and pruned down Budget: Under Zero-base concept, the Corporation deleted all budget items pertaining to the programs/activities which had lost their purpose e.g. flushing latrines scheme, free of cost water connection scheme etc.
- 5) Devised model for budget/resource allocation: The Corporation devised an in-built model of budget/resource allocation in its Capital Budget (Part-2) to ensure a balanced development of the entire city. Corporation adopted a policy of allocating funds available for development in the ratio of 80:20 to under-developed and developed areas of the city respectively
- 6) Elected Representatives’ increased participation: As per Bombay Provincial Municipal Corporation Act 1949, the final powers of budget formulation, adoptions are with the elected wing/elected councillors. Up till now every year they were putting or allocating resources/budgets without taking into consideration of availability of resources. Under the newly introduced participatory budget system, the Capital Budget is allocated to various elected wards. In Loan Budget and Capital Grants Budgets such development works are selected which benefit the whole city and not any particular area.
- 7) Expenditure made contingent to resource realisation: In it Corporation agreed for broad priority for sanctioning or clearing of works/expenditure as follows:
 - Payment of spill over liability.
 - Payment of Counter funding liability or transferred of funds to project Accounts.

- Area wise development works.
 - Councillor-wise small capital works.
 - Any other development work.
- 8) Augmented tax rates and service charges: Corporation revised its tax rates and charges consecutively for four years to augment its resources.

Financial Control Reforms

- 1) Introduced centralised financial control: All the payment bills started routing through accounts departments to audit department. In the accounts department each and every payment got scrutinised from the point of view of budget availability, appropriateness of expenditure and financial availability.
- 2) Brought Advances under centralised control: Drawl of advances was controlled and they could be drawn only after prior permission of General Board of the Corporation. This reform ensured that each and every expenditure incurred by Corporation will be within the budgetary allocations.
- 3) Improved tendering procedure: The Corporation switched over to system of item-rate tendering and system of consolidated annual works tendering. Under this new system, tenders are called for a particular type of work to be carried out throughout the city or in particular area of city during the year.
- 4) Removed procedural limitations: Giving of advance to any supplier government and semi-government organisations was discontinued and a policy was made that 90 percent payment can be made against delivery to private contractors/suppliers.
- 5) Introduced proper cash management and working capital management: In the monthly cash budget, urgent/statutory/essential/obligatory expenditure is estimated, and then average/routine/regular income is forecasted. These two projections are compared and if there is a surplus, discretionary expenditure is undertaken. If there is a deficit, the revenue/recovery departments are given targets to bring necessary additional revenue to bridge the estimated gap between monthly revenue and expenditure.
- 6) Introduced time-bound bills movement procedure: The procedure is as follows-
 - a) Departments must prepare bills within 30 days from the completion of work.
 - b) Audit Department would forward bill to Account Department having done budget and other scrutiny within 7 days of receipt of bill from Department.
 - c) Accounts Department would make payment to party within 7 days receipt from Audit Department.
- 7) Improved management of Receivables: The Corporation's top management could set recovery and resource mobilisation targets to its revenue departments/employees. Setting of targets well in advance provided motivation to recovery personnel. It also facilitated performance evaluation of recovery machinery and necessary measures to lift up the lagging recovery performance.

Results achieved

- These reforms helped Vadodara Municipal Corporation
 - to augment Rs. 3800 lacks to carry out its prestigious Panam Water Supply Project
 - to pay termination benefits to Electricity Department employees
 - to pay arrears to its employees and to discharge other liabilities.

- The Corporation also succeeded in revising its various taxes for four years in succession.

The Corporation introduced these reforms one by one with time-gap, thus allowing earlier reform sufficient time to get settled.

Transferability

All the local bodies- large and small with poor financial performance can re evaluate their system following the above example.

A critical analysis of the present system of budgeting and financial control should be taken up to know the loopholes and bottlenecks in the system. Small improvements can save revenue and increase the efficiency of the system.

2. Energy auditing of the water supply pumps and mains

Vadodara Municipal Corporation has undertaken energy auditing of the water pumping stations in the city with the help of a consultancy firm. Till now five stations have been evaluated. The consultancy firm has suggested various energy efficiency measures.

They are:

1. Replacing the old, less efficient pumps with new more efficient pumps.
2. Reducing head of the energy load.
3. Ensuring the proper maintenance of the pumping stations (by avoiding throttling valves, oiling parts to reduced friction and other measures).
4. Placing new efficiency measuring equipments on the pipes.
5. Regularly monitoring the energy consumption in the system.

Project is still under pipeline. It will take more time till the results are seen in the field.

3. Mechanisation of street lighting system

Situation before the initiative

- Streetlights in the Vadodara Municipal Corporation area were handled manually.
- For switching on the streetlights at 7 o'clock, municipal workers/labourers start manually switching on the lights at 6:30 p.m. This was consuming a lot of electricity and causing inconvenience, not only to the citizens but also to the corporation.

Strategy adopted

- VMC decided to mechanise the system of streetlights in the city. The proposal of a private company using wireless operated Remote Power Management Unit (RPMU) was accepted.
- Two trial switches for experiment were installed. These are working satisfactorily since last 4 months.

- Now this unit will be put up on all the streetlights.

Results anticipated

- Time wasted in manual operation and the energy consumed till lights are switched on and off can be saved effectively:

Sustainability

The new system will involve:

- Training of the officers
- Maintenance of the unit which can lead to lesser dependability of the corporation on the private company.

Best Practices of Vadodara Urban Development Authority (VUDA)

1. Social awareness programs

VUDA has taken up a number of programs for creating social awareness amongst the villagers of the area. These include tree plantation programs for school children & prisoners, street plays in the selected villages on Malaria prevention and publishing of citizen's charter.

Tree plantation scheme

To make school children aware of environment, a competition was organised by VUDA in association with the NGO "Baroda Beautiful Council", "Akhil Bhartiya Vidyarthi Parishad", "Nagar Prathmic Shikshan Samiti" and "Social Forestry Department". The competition was open to primary and middle school, Jails and other organisations.



Fig. Children showed a lot of interest in the plantation program.

Strategy adopted

- Under the program, the interested parties were provided Rs.3 per plant for digging, etc., where as the Forest Department provided plants.
- Tree guards were also purchased by VUDA & provided to the participants.
- For mobilising revenue for the project, Rs. 2/sq. m was charged for the Tree bank from those who have opted for building permissions.
- A number of prizes were also announced.
- The conditions were:
 - Monitoring the plants for three months
 - At least 25 trees for schools to be planted & 100 trees for organisation
 - Keeping 10-15 feet deference between the trees
 - (The places where trees can be planted were specified)
 - Declaring jury for selecting best tree plantations



- Trees to be planted like Neem, Imli, Asopalav, Gulmohar, Pipal, Fruit trees etc. were specified.

Results achieved

- 63 primary schools and 4 village panchayats participated in the competition.
- 4570 trees were planted but only 1333 (30%) could survive.
- The schools showed great enthusiasm and children loved the work.

Transferability

Urban development authorities/municipality even with small budget can take up such programs.

Rajkot

City profile

Best Practices of the Rajkot Municipal Corporation (RMC)

1. Privatisation of the municipal services

1. Privatisation of Solid Waste Management Services
2. Privatisation of the maintenance of street lights
3. Privatisation of maintenance of pipelines and drainage pumping station
4. Collection of Toll taxes and serving of Tax bills
5. Privatisation of the Parks and Entertainment facilities
6. Privatisation of the Health and other services

2. Innovations in the revenue collection

- A. Self Assessment form for Property tax collection
- B. Strict enforcement of the Octroi and property tax

3. Recruitment of the professionals in the corporation

Rajkot

Rajkot is the largest city in Saurashtra region and the fourth largest city in Gujarat. Kunwar Vibhoji Jadeja established the city in 16th century. It is now a major centre of business, trade, industries and communication in the region.

The city produces almost 65% of the nation's total diesel engines. It has more than 20,000 large and small industrial units producing diesel engines, electric motors, plastic, printed cotton and silk cloths etc. Traditional mirror, bandhni and patola work of this area is famous all over.

Location and linkages

Rajkot is situated in the middle of the peninsular region of Gujarat. It falls on Viramgaon-Okha-Porbander-Mehsana railway route. Ahmedabad is at a distance of 225 kms. The city has an airport and is well connected by road and rail with all major cities of the city.

Demographic profile

RMC has an area of 104.86 sq. Kms and the present population is around 8.50 Lakh. Total RUDA area is 483 kms including RMC area and surrounding 39 villages. Population of RUDA area is less than 1 lakh. It is estimated that by the year 2011 the population will become 12 lakh (RMC, 1998).

Major industries and institutions

Major industries in Rajkot include those of diesel engines ball bearings, machine tools, food technology, plastic technology, , printing and dying etc.

Rajkot has a number of institutes of national and international repute these are Vivekanand institute of hotel and tourism management, Rajkumar public school, AV Parekh technical institute

City Development

The city was founded by the then ruler of Sardhar Kunwar Vibhoji Jadeja in 1608 AD on the west bank of the river Aji as a small fortified town. Until the formation of Saurashtra State it was the capital of the small kingdom of the Jadejas From 1948 till 1956 it remained the capital of Saurashtra. Later on it was merged with the Gujarat state.

The Rajkot Municipal Corporation was formed in 1973 under the provisions of the Bombay Provincial Municipal Corporation Act 1949. Prior to that municipality provided the civic services.

Best Practices of the Rajkot Municipal Corporation (RMC)

1. Privatisation of the Municipal Services

The local bodies of our country are facing major problem of lack of financial and human resources to manage the breakneck growth of the cities. Few years back Rajkot was also experiencing the same. It is then that the corporation took some of the timely and bold measures to combat the problems which have emerged with the dawn of urbanisation. The Corporation has now pioneered the art of "Privatisation". NGOs have been involved in the services like Crematoria, Dispensaries, Libraries, Planetarium, Science centre etc. while the contractors are involved in Parks, Solid waste management, Street lights maintenance, Security and Amusement parks. This has opened new avenues for the corporation to reduce the establishment expenditure while allowing for better management and services.

Situation before the initiative

- The present population of Rajkot is estimated to be 8.5 lacs and the city area is 104.86 sq. km.
- Resource constraints obstructed the initiatives of Corporation to solve various problems related to the increasing size and pressures of its growth.
- The tax structure in Rajkot Municipal Corporation has also remained static over the years coupled with the political problems attached with raising the taxes. This resulted in low leverage to augment finances.

Strategy adopted

- Privatisation of high priority services was introduced to supplement the existing service delivery. The experience gained in initiating the private sector involvement and later in managing and supervising the works has helped the Corporation to evolve standard tender documents.
- Involvement of the private sector demanded larger vigilance and monitoring
It required:
 1. Setting the duties of contractor, the rates of work and evaluation procedure.
 2. Advertising the tender and hiring the contractor.
 3. Monitoring activities of the contractor
- The following services have been privatised till now:
 1. Solid Waste Management
 2. Street lights
 3. Drainage pumping station and pipelines
 4. Collection of Toll taxes and serving of Tax bills
 5. Entertainment Projects
 6. Mobile Clinic

A Privatisation in the field of Solid Waste Management

Approximately 485 grams of solid waste per capita per day is produced in the city. Privatisation was introduced in the primary collection (sweeping) and secondary collection activities of the corporation.

a) Private sector participation in transportation of waste

The work involves collection of solid waste from all the collection sites and transporting it to the waste disposal site.

Strategy adopted

- It was decided to give contract to private entrepreneurs for transporting waste from the waste storage depots to the land fill sites
- Conditions were determined and tenders were invited
- The rate per ton of solid waste was decided at the annual auction of contract for each ward
- Twelve out of the nineteen wards have been privatised so far and the percentage participation of the private sector is 70
- Conditions includes:
 1. Truck loading from collection centers all over the wards.
 2. Transportation to the predetermined dumping sites.
 3. Disposing as per instructions.
 4. Contractor to use his own four labour, materials and trucks.
 5. The solid waste removed must be weighed at contractor's cost on which payment per ton will be paid.
- Salient Features of the contract are:
 1. Contract period is of one year.
 2. Route, number and timings of the trip are fixed.
 3. Garbage, animal waste etc. are to be lifted and transported to the dumping sites.
 4. Per trip 3.5 M tons of weight is to be transported.
 5. Timing is 7 A.M to 6 P.M.
 6. Provision of penalty
 - Rs. 100 if number of trips are less
 - Rs. 50 if one labourer is less
 - Rs. 2 if waste is not lifted from a particular spot.
 7. Contractor is fully responsible for any problem.

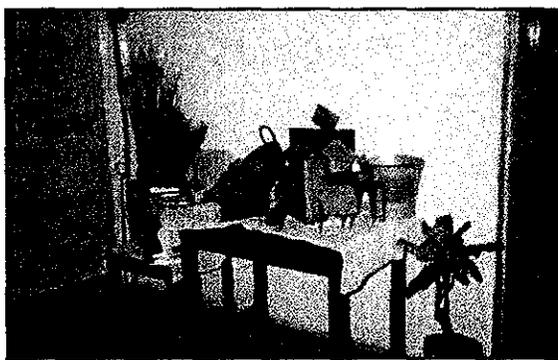


Fig. Equipments for SWM were put in the awareness program.

Salient features of solid-waste removal:

- RMC has deployed their own trucks and labourers working in this department in 7 wards in old city areas and two wards in the new city area and work in rest of the wards is contracted out to various contractors on tonnage basis.
- Contractor has to load this solid-waste from the site in trucks and dispose at the dumping sites 4-5 kms away from the city at a rate of Rs. 50 per ton.
- Contractor has to load the solid-waste from the dust-bins and have to get weighing slip from nearest public weighing bridge before disposing it at dumping site. Payment is being made on the basis of weighing slip.
- RMC has a special flying squad consisting of one sanitary inspector (Vigilance) and 2 sub inspectors to check weights and dump materials. If any discrepancy is found in weighing contractors has to loose payment of one trip and if this is repeated he has to pay heavy fines.
- Sanitary inspectors and Sub-inspectors in other wards have also been instructed to keep a watch on this.

Results achieved

- Private contractors cover 11 wards while municipal department covers only 9 wards out of twenty municipal wards
- Contractors use big trucks while municipality uses smaller vehicles thus increasing the efficiency
- Six private agencies involved in defined areas while department covers 9 wards
- Average expenditure of private agencies is Rs. 48 lakhs while that for the department Comes to Rs. 62 lakhs.

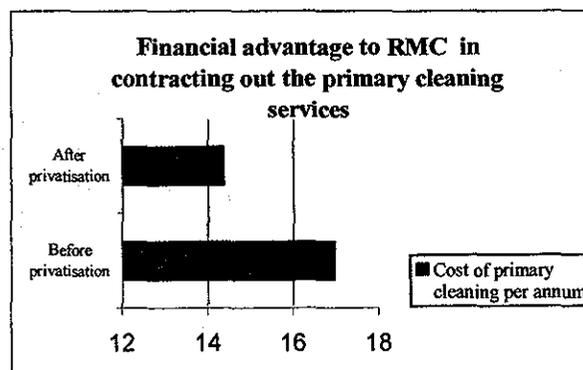


Fig. Collection of solid waste is privatised

- The contractors were found mixing stones and heavy waste in the solid waste collected to increase weight. So the corporation has now decided to pay the contractors according to the “number of points” (places of waste dumping) cleaned by the contractor and not on the weight of solid waste collected.

Lessons learned

- Merits of involving the private sector
 - Financial advantage
 - No capital investment
 - Better service performance



- Easy and effective manpower handling

Demerits

- Monopoly of contractors
- Tendency to violate labour laws
- Corruption in recording trips and weight
- Some staff and a few vehicles must be kept with the department to meet emergency situation if contractor fails to perform

b) Supporting private housing colonies to improve sanitation

The corporation adopted a policy to give grant of Rs. 600 to housing societies having an open area exceeding 30,000 sq.ft. It initially started with one society followed by another in 1989. Later since 1990, the scheme has picked up and by now 16 societies is availing of the benefits of the scheme.



Fig. Better sanitation in private housing colonies.

- One housing society of 87,750 sq. ft. open area was given grant of Rs. 500/- per month for internal cleaning managed by the society itself in 1978. The next housing society joined in 1989.
- These two societies continued to manage the solid waste using the grant at a flat rate of Rs. 600/- p.m. (with open area exceeding 30,000 sq. ft.).
- After 1990, the scheme picked up momentum and at present 16 housing societies follow this method.

In other areas

- Two out of the total nineteen wards (180 units of 30000 sq. ft area) were contracted out for primary waste collection and cleaning.

Strategy adopted

- Works to be carried out under the contract are specified:
 - Cleaning of lanes, roads and open/piped gutters.
 - Collection of solid waste at a predetermined spot.
 - Removal of dead animals like dogs, pigs, goats, cats etc., which weigh less than 20 kg.

- The contractor is paid per unit Rs. 1140 per month.

Results achieved

- Net financial saving is Rs. 600/- for every 30,000-sq. ft. of open area.
- Rs. 2.61 lakhs is the financial advantage for the corporation after the privatisation.
- Contract was executed for four years (1993-1996), which has been discontinued till the last year because:
 - Active pressure groups and vested interest groups like the Employees' union, community based organisations and political patronage were influencing the contract.
 - There were administrative problems with the then going contract
 - a. Unprofitable pays for contractor
 - b. Exploitation of contractual labour
 - c. Corruption
 - d. Fake complaints
 - There is a problem of labour laws and administrative shortfall at the part of the Corporation that led to stay orders from the government.

Lessons learned

Although there are financial advantage and higher efficiency of work after privatisation there are some inherent problems also:

- Communities depending on solid waste removal as their occupation should be taken care of.
- If private contractor does not turn-up on the service the corporation must have alternative systems.
- A small percentage of the total work should be privatised –25% in case of RMC.
- The conditions of the contract should be spelled out properly.
- Alternative systems must be thought of.

B. Privatisation of the maintenance of Street lights

Situation before the initiative

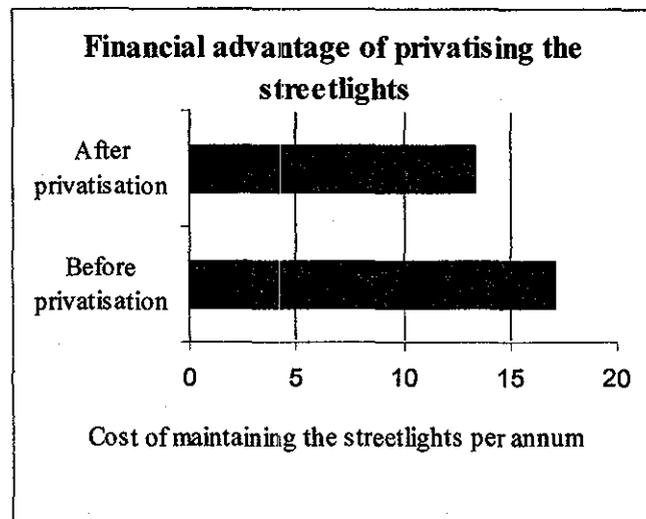
- Most of the street lights in the city were damaged and un-repaired. This invited a number of accidents as well as anti-social activities.
- Corporation failed to answer the complaints of public satisfactorily.
- From September 1991 private sector was involved for maintaining the streetlights. Initially four wards were privatised followed by the others.
- 33 percent out of the total streetlights (20,000) have been contracted out till now.

Strategy adopted

Some of the salient features of the contract are given below:

- Basic rates for running of streetlights are fixed for 1-year. This includes replacement & repair of streetlights at the cost of contractor.
- The contractor should bare Labour costs, Tax, and Accident Insurance.
- The contractor should regulate switching the streetlights on/off.
- The replacements of various parts of the streetlights are to be done by the contractor as specified in the document. Brand names of the tube lights, chokes, holder, starter, wire etc. are specified in the contract to ensure the quality.
- Penalty Clause is kept for the following
 - If there is an unnecessary delay in the switching of the streetlights.
 - If the lights are not repaired within three days of the complaint
 - If daily reports are not submitted to the corporation
 - If the contractor is not doing his duties.
- Basic rates of the contract were fixed before the tendering process.
- Cost of annual replacement of the Tubelights, Chokes, Starter, Holders, etc., and establishment charges were fixed (details are shown in the annexure).

Results achieved



- There is a saving of Rs. 3.73 lakhs to the corporation per year after the initiation of Privatisation

- Opinion poll conducted by the corporation suggests that the public is appreciating the change.

Lessons learned

- Private sector participation can be successfully and economically introduced in maintaining the streetlights. However to avoid monopoly of

private contractor and having control over the situation, in case private contractor fails to perform not more than 40% of the of the service should be privatised

C. Privatisation of the maintenance of pipelines and drainage pumping station

Situation before the initiative

- Water is supplied only for 30 minutes everyday. In scarcity period water is supplied on alternate days.

- Every summer, RMC used to recruit daily wagger persons to maintain special service of water supply and incurred huge expenditure.

Strategy adopted

- Private contractors were asked to make arrangements for maintenance and repair of pipelines round-the-clock during the scarcity period.
- The contractor was to arrange 10 labour and one truck and he was paid Rs. 1000/- per day and 2 fitters were provided by the RMC.

Results achieved

- This scheme saved lakhs of rupees.
- Problems regarding payment of daily wages and regularisation on the permanent jobs were done away with

D. Collection of toll taxes and serving of tax bills

Situation before the initiative

- Toll Tax was imposed to recover the cost of construction for widening Kaiser-E-Hind Bridge and construction of Champakbhai Vora Bridge on river Aji.
- Tax collection through 4 toll nakas had considerable leakage

Strategy adopted

- The corporation floated tenders to privatise the collection of toll taxes. The salient features of the tender were as follows: -
 1. The contractor has to pay the quoted toll of a week in advance.
 2. There is also provision of security deposit.
 3. Different tenders for different Nakas are floated to make it competitive wherein comparatively small contractor can also participate.
 4. There is a clause of penalty for delayed payment of toll.
 5. There is also clause where either party can withdraw from the agreement by prior notice of one month.

Results anticipated

It is estimated that there will be 20% rise in the toll revenue by these measures.

E. Privatisation of the parks and entertainment facilities

E.1 Parks

Situation before the initiative

- Parks were ill-maintained by the municipality department

Strategy adopted

- Maintenance of two Parks namely Race Course (12000 Sq. Meters) and Sorathiwadi Chowk garden (5500 Sq. meters.) were decided to be given on contract in November, 1992.
- 17.5% of the total park areas in the Rajkot is privatised (i.e. 17, 500 sq.meters out of the 1,00,000 sq.m).

The duties of contractor were clearly spelled out in the contract:

1. Daily cleaning and removal of solid waste.
2. Watering by sprayer on alternative days.
3. Weeding every fortnight.
4. New plantation as and when asked.



Fig. Condition of parks in Rajkot has improved after privatisation.

5. Trimming of plants and mowing of lawn every month
6. Smearing half yearly.
7. Sprinkling pesticides half yearly.
8. All equipment to be brought by the contractor While –Manures, pesticides, water and soil to be supplied by R.M.C.

Results achieved

- Privatisation brought better management and efficiency in the system apart from the financial advantages.
- Net financial advantage 6,30,000 was achieved

E.2 Afforestation

Situation before the initiative

- The municipality could not implement the afforestation program effectively.

Strategy adopted

- Corporation has issued tenders. for growing forests in the chosen areas.
- For three years a contractor will be hired, whose responsibilities are as follows:
 1. Digging the pits.
 2. Plantation
 3. Watering
 4. Weeding
 5. Security of plants.
 6. Sprinkling of pesticides
- Water is being supplied by R.M.C. After three years general security measures will be required.

Results achieved

The scheme has just started and is successful in the initial stage.

E.3 Entertainment projects & schemes:

- Besides providing basic amenities to the citizens, RMC has taken up various entertainment projects and schemes with active participation of entrepreneur experts in respective fields.
- In some cases lands and buildings are provided to the entrepreneur for running the scheme on lease while in other cases only land is provided on lease. The private entrepreneurs are allowed to charge stipulated fees from the user.
- The general rules and regulations of running such facilities are decided by R.M.C. an agreement has been made with private entrepreneurs for smooth running of the scheme.

E.4 Aviary:

- In this scheme the entrepreneur is required to bring 600 different birds.
- The corporation provides building, cages, light and water, while the bird feed and medicines are to be brought by contractor.
- R.M.C. is saving establishment expenditure of about Rs. 10,000 /- p. m. apart from providing better entertainment to the citizens

E.5 Aquarium:

- In this scheme the entrepreneur is required to bring 650 different varieties of fishes.
- Fish food, medicines are to be brought by contractor.
- The corporation provides building, aquarium, light and water
- Apart from the aviary and aquarium the corporation has developed amusement park, baby train and ropeway, etc. through privatisation.

F. Privatisation of the Health and Other Services

Situation before the initiative

The health facilities for the poor and the slum dwellers were unsatisfactory and were available to a negligible part.

Strategy adopted

- A mobile clinic was introduced
- Salient features of the contract:
 1. Working time six days a week with timing 9.00 am to 1.00 p.m. and 3.00 p.m. to 6.00 p.m.
 2. Two localities are to be covered per day.
 3. The clinic is to be managed by any NGO
 4. The NGO should furnish bills of all expenditure including establishment expenditure every month for grant
 5. Bills so submitted are to be audited and are paid grant with maximum limit up to Rs. 10,000 /- p.m.
 6. The patients are to be charged Rs. 2/- per person
 7. NGO is responsible for up-keep and minor maintenance of vehicle
 8. Fuel charges are also to be borne by the NGO
 9. Daily 130 patients on average should be benefited



Fig. Medical checking in the mobile clinic

Results achieved

- Financial Advantage of Rs. 4000/pm or Rs. 48000 / per annum was achieved
- The most important benefit of the scheme is the involvement of NGOs who have social motive and thus rendering good work

Lessons learned

A). Advantages

- Lower production and delivery cost
- Greater efficiency in service delivery
- Wider choice and more flexibility in service provision
- Rapid and efficient decision making
- Reduced financial burden on Government for wages, operating cost, debt servicing and investment
- Fewer restrictions in work and hiring practices, and more flexibility in adjusting the types and levels of services to the changing needs

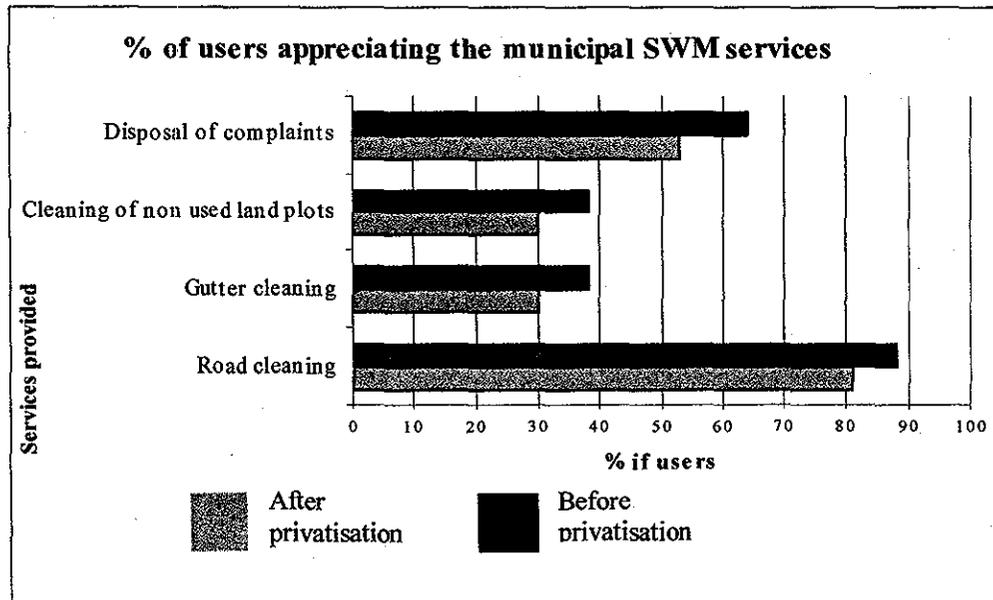


Fig. Privatisation of urban services has improved the performance of RMC and the condition of Rajkot

B). Problems:

- Opposition to the idea of privatisation is expected from –
 - Political leaders who control patronage positions
 - Civil services organizations and labour unions fear decrease in government jobs.
 - Organised consumer groups fear increase in cost of subsidized services.
 - Opposition to privatisation also arises from fears that private firms will eliminate services that are unprofitable and will leave poor household un-served.

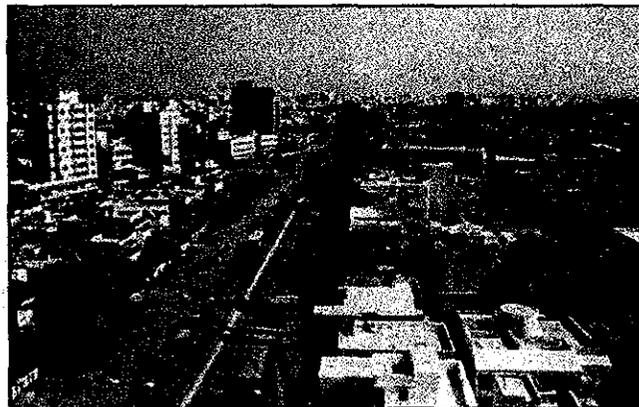


Fig. Privatisation of urban services has improved the performance of RMC and the condition of the city

- Privatization depends heavily on the management skills of private companies

Transferability

The practice is transferable to all the local bodies with letter management power.

2. Innovations in the revenue collection

A. Self-Assessment Form for Property Tax Collection

Property tax is the second major source of revenue in Rajkot. In order to simplify the procedure and to increase the base of this tax the corporation has recently introduced the self-assessment forms.

Situation before the initiative

- Earlier the work of property tax assessment was complicated and lengthy.
- It involved preparation of lists of the taxpayers and judging their taxes by the corporation staff.
- The system was not transparent and so it was difficult for the public to determine their taxes beforehand.

Strategy adopted

- The Self-assessment forms were introduced by the Corporation in 1998.
- These forms contain questions regarding extent and market value of properties.
- The taxpayer himself/ herself can come and give details about the property.
- By filling the form, all the properties including those illegal can get the facilities of the corporation. Thus many slum dwellers and other illegal housing societies are filling the form.

Results achieved

- Revenue of the RMC has increased after the introduction of these forms.
- Many of the informal housing societies and unnoticed co-operative societies who were not in the list of the Corporation earlier have come forward for filling the forms.

Lessons learned

- The Corporation should be vigilant to avoid people producing false information.
- Area based property tax assessment, which will make the self-assessment forms more useful can be introduced

B. Strict enforcement of the Octroi and Property tax

Rajkot Municipal Corporation has a sound financial position. Steady growth in the octroi and revenue income is the result of continuous monitoring and improvement.

Situation before the initiative

- Octroi contributes about 62% of the total income of the RMC while Property tax contributes 22%.
- The corporation followed a complicated system wherein the taxes were estimated on the basis of the market rates of the property.

Strategy adopted

Strict Vigilance for Octroi

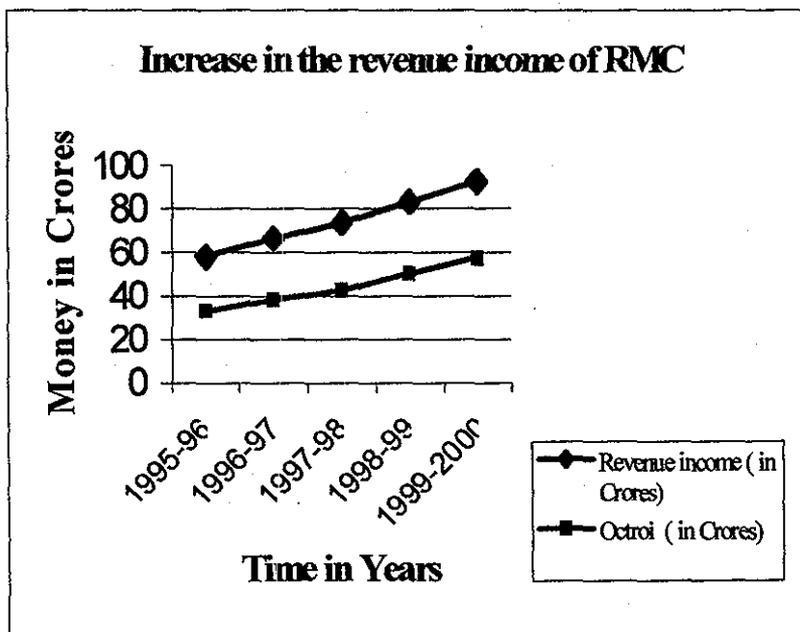
- A separate octroi vigilance department reporting to the Dy. M. C was formed. This has independent octroi officers, security personnel and trained staff.
- Assistant managers with the degree of M.B. increase the efficiency.



Fig. Strict vigilance at octroi naka.

Measures to increase the Property Tax

- Introduction of the self-Assessment forms – To increase transparency and ease in the collection of the property tax self-assessment forms are introduced.
- Property tax reforms –Now the whole city is divided into zones. A scientific method based on the built up area of the property, vicinity from the shopping center and type of areas; is adopted to calculate the property tax.
- This system is much easier and transparent and thus it is helping the Corporation to collect taxes from more people.



Results achieved

- Octroi has increased by 16% while the Property tax reforms have given relief to the general public.
- Tax department at RMC is fully computerized and with the induction of professionals in the system, it is envisaged that more efforts will be taken to increase revenue.

Lessons learned

- To augment the revenue income - self-evaluation, continuous monitoring and improvement is required.
- Modernise the revenue department by:
 - Computerisation
 - and by recruiting professionals

3. Recruitment of the professionals in the corporation

To initiate corporate culture in the Corporation recently a few professionals were recruited in the RMC. They are working at the post of assistant managers in the Corporation.

Situation before the initiative

- The Corporation used to recruit only engineers and town planners at senior posts and rests of the officers at the level of clerk or second grade officers. These officers took 10-15 years to reach at senior post.
- The corporations are filled with old people with no new and fresh ideas

Strategy adopted

Corporation recruited professionals MBAs and Chartered Accountants at the level of Assistant managers in the key branches like Octroi, Tax, SWM, and Streetlights.

Results achieved

- The services are better managed and tackled more efficiently. The old staff is not co-operating in many departments.
- It is expected that after 5-10 years – when these officers will be at good rank, results will be much better.
- RMC has decided to recruit professionals every five years.

Lessons learned

- Recruitment of professionals in the corporation increases the efficiency of the whole system.
- Old staff should be taken in confidence while venturing direct recruitment. They must be assured their rightful status.
- The new professionals in the corporation should be trained to get the desired work from them.
- The local bodies with rich financial base can go for recruiting the professionals.
- Following steps should be taken:
 - Demarcate the duties of the new officers and give sufficient powers to them to work comfortably.
 - Train the new managers in day today functions of the corporation.

Transferability:

Local bodies can think about recruiting professionals to modernise and manage the growing complicated functions.

Bhavnagar

City Profile

Best Practices of Bhavnagar Municipal Corporation (BMC)

- 1. Relief measures taken to ease the burden of Sewer mains**
- 2. Use of Vacuum pumps for easing the work in manholes**
- 3. Sewerage recycling project of BMC**
- 4. Improved lighting in slum areas**
- 5. Energy saving initiative**
 - a. Switching-off the alternate streetlights after midnight**
 - b. Replacing the tube lights with energy efficient lighting fixture**
- 6. Latest and modern metering equipments for proper monitoring of water supply**
- 7. Involving polytechnic students for detail designing of the sewerage network**

Bhavnagar

Bhavnagar, is the fifth largest city of Gujarat and the second largest town in the Saurashtra and Kutch region. It is a natural harbor and one of the fastest growing urban centers of the coastal region of Gujarat. Being near to the Alang ship breaking yard, a number of ancillary industries had come up, which along with the other important industries like Excel, Steel-Cast, HMT, NDDB, Diamond industry etc. has provided the city with good potential for development. The city is blessed with a rich architectural heritage. It was an important center of trade and learning in the past. Its ruler Shri Bhavsinghji established Bhavnagar in 1723 and in 1872 it was deemed as an urban centre of the state. Presently the city is experiencing tremendous growth, which is expected to increase as a consequence of the government's policy to divert the growth from the industrial corridor of south Gujarat to Saurashtra.

Location and linkages

Bhavnagar is one of the coastal towns falling under the category of intermediate port. It is situated on the Gulf of Cambay. It is 15m above MSL and excess humid and saline condition is not experienced here. This situation has helped the flourishing of steel and other industries. The city is 210 km away from Ahmedabad and is well linked by state and national highway to the other areas of the country. It is a terminus railway station on western railway's meter-gauge line. The city is also connected through airport, seaport and a coastal highway.

Demographic profile

The urban population of Bhavnagar district is increasing at the rate 35.11%, which is higher than the state average of 34.49%. The present population of city is 5,50,000; the population is showing an increasing trend from 1951. It is estimated that by the year 2010, the city's population will become 8,00,000.

The city is divided into twenty wards covering an area of 53.40 sqkm. The inner core area of the city is smaller in size but is densely populated. The density of the population/ Hectare varies from 150 to 400. From 1991 the densities of the inner old core area is either reducing or is standstill; while the outer area is showing the sign of development. The area outside the present city limits, which falls under Bhavnagar Area Development Authority, is 84.53 sqkm. It is envisaged that 30% of this fringe area will develop in 2010, which would be able to hold a population of 2,53,590.

Major industries and institutions

Major industries of the city are Iron re-rolling mills, Excel industries, Steel Cast Corporation, Kamani Engineering, NDDB, Chemical manufacturing factories, etc.

The city is bestowed with a good educational environment facilitated by an engineering college, medical college and polytechnic college. The Central Salt Research and Marine Chemical Research center is also located here.

City development

The city of Bhavnagar was planned on traditional town planning principles, and great care was taken to orient the main roads and major activity areas. The Krishnanagar town-planning scheme was launched later on in the nineteenth century to provide for the fast development of the city.

Before the formation of the Gujarat state, planning was done under the provisions of the Saurashtra Town Planning Act, 1955. On the formation of the state Bombay Town Planning (Gujarat extension and amendment act) was adopted in 1967. Bhavnagar municipality was formed under this act which assumed the status of Municipal Corporation in 1982.

On 14th February 1982 Bhavnagar Municipal Corporation was incepted in the city. The obligatory functions of the corporation are water supply, , sewerage and storm water drainage, Solid waste management Fire services, street lighting on major roads, Maintenance and regulation of public places, Primary education, Birth-date registration, Control of diseases, road and bridge construction, Slum improvement program and relief measures in case of any disaster.

Thereafter, Bhavnagar Area Development Authority was constituted under this act to regulate and monitor the development in the corporation limits and the adjoining thirteen villages. The major functions of the authority is to undertake the preparation of the development plan, town planning schemes, regulate the development and charge the development charges in the area of its jurisdiction.

Best Practices of Bhavnagar Municipal Corporation (BMC)

1. Relief measures taken to ease the burden of Sewer mains

It was difficult for BMC to lay new or parallel lines to the old sewer mains in the centre of the city. Creating a sump connected to the old mains to the final discharge main solved the problem.

Situation before the initiative

- The sewerage system of the city was very old as it was provided by the ex -rulers of Bhavnagar State.
- The population considered for its initial designs was overtaken by the increasing urbanisation of the city especially the inner core area. Consequently sewer mains always remained overloaded.
- There were frequent blockades, overflows and contamination of the system on account of stagnant condition of waste water.

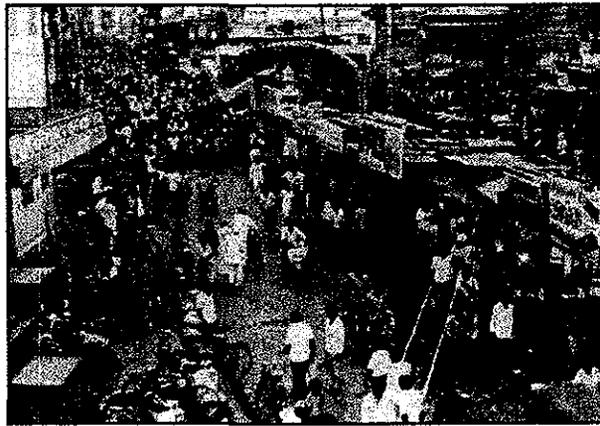


Fig. Parallel mains could not be laid because of congestion in the heart of the city.

- The situation was giving rise to unhygienic and unhealthy conditions in the city.
- As laying new pipelines entailed extra heavy costs, the corporation was unable to do so.
- Remedial measures were to lay larger diameter parallel mains along with the existing mains, at the same level, in order to release the burden. These measures entailed laying sewer mains at great depths in the heart of the city where the congestion was highest. Blocking roads for the deep trench excavations and old houses on the narrow roads posed a major threat. No contractor was ready to take up the work despite several efforts.

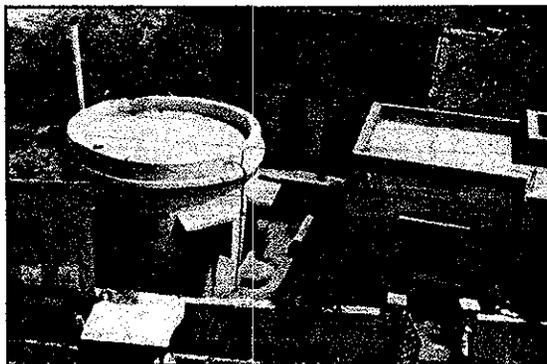


Fig. Sump connected to the old main.

Strategy adopted

- The matter was closely analysed and various alternatives were considered. The following solution was found easy to implement and brought much needed relief:

- Three mains - Jasnath , Kalanala and Waghawadi, discharged their waste into

- another main. This main was overloaded and was causing problem.
- It was decided to construct a sump connected to overburdened sewer. From this sump, the wastewater was pumped to a shallow depth gravity pipe. Gravity main was laid as per the ground profile connecting to the main pipe where the waste was finally discharged.

Results achieved

- The whole project entailed a little extra recurring operation and maintenance cost but capital cost was saved by 10-12 lacks.
- The mains are now working satisfactorily. Overburden has reduced to half and overflow has stopped.
- The new system has provided the much-needed relief to the users and has restored the hygienic conditions.

Lessons learned

It is important to look for non-conventional relief measures.

Transferability

All smaller local bodies with limited financial resources, which are facing problems on account of old drainage line, can think of similar measures.

2. Use of Vacuum pumps for easing the work in manholes

The corporation has introduced use of vacuum pumps to suck the hazardous gases from manholes. This has reduced the number of fatal accidents.

Situation before the initiative

- It is often observed that there is a concentration of hazardous gases in the manholes.
- Such conditions lead to a number of fatal accidents.

Strategy adopted

- A novel method of using vacuum pumps to extract gases that might have accumulated in the manholes was adopted before the commencement of the work.



Fig. Use of vacuum pumps.

- The blower of the vacuum cleaner was operated after inserted long hose right inside the manhole. This injected fresh air into the manhole.
- It also helped in lowering the temperature.

- The workers were allowed to enter the main hole with harness belt tied round their waist as an added safety measure.

Results achieved

The method provided safety, comfort and convenience while working in the manhole and was greatly appreciated by the workers.

Lessons learned

Vacuum pumps can be used to suck out harmful gases from the manholes.

Transferability

Above measures can be adopted by sanitation departments of local bodies.

3. Sewerage recycling project

BMC has taken an initiative to treat sewage of the city and recycle water.

Situation before the initiative

- A lot of wastewater is discharged into water bodies whereas there is acute shortage of water in Bhavnagar.
- Having spent a large amount on treatment of sewerage, the treated water was being wasted.

Strategy adopted

- To reduce the cost of the treatment and to explore the rich potentials of sewage, a number of bucket experiments were carried out by BMC.
- This involved rendering the sewerage with various treatment processes like sedimentation, filtration, aeration and disinfection to get clear water as the end result.
- Convinced with the results, the matter was referred to a consultant, a central government undertaking "National Environmental Engineering Institute" NEERI.
- The consultancy firm prepared a feasibility report indicating the technical viability of the experiments.
- A reputed firm, "Soda Ash Projects", of Bhavnagar City is presently coming up to use the sewerage of the city for its purpose using the same technology.

Results Anticipated

- The corporation would be able to get revenue while saving on the cost of treatment of the sewage.
- Saving of the scarce resource-water will be ensured through recycling.

4. Better lighting in Slum Areas

Small and energy saving lighting fixtures have been introduced in the slums of Bhavnagar. Maintenance of streetlights can now be done with ease.

Situation before the initiative

- In most of the places in Bhavnagar, four feet long streetlight poles are installed.
- In slums where there are narrow streets it is difficult to repair and maintain the streetlights as major vehicles and steel stairs cannot reach the inner areas.
- This was causing a lot of problems to the workers as well as the residents.

Strategy adopted

- Energy saving (11 watt) CFL tube lights was proposed to be used.
- The manufacturer was asked to provide water proof outdoor fixtures.
- Replacing cost was worked out to be Rs. 100 per fixture.
- Tube lights in slums were replaced by CFL 11 Watt fittings.

Results achieved

- The new lighting fixtures are projecting only 1.5 feet from the electricity pole and can be repaired easily with hand ladder.
- They are also saving precious electricity.
- The initiative has led to timely repair of street lights as well as convenience to the workers.

Sustainability

In the beginning, one slum of the city was provided with this lighting. Now driven by the successful results, other slums are also being covered.

Lessons learned

The problems of street lighting in the slum can be solved by the above changes and energy could also be saved.

Transferability

The idea can be readily transferred to all the slums that have difficulty in maintaining the streetlights.

5. Energy saving initiatives

Lighting department of BMC has introduced various measures to save electricity. This involved switching off alternate streetlights in midnight, using energy saving fixtures and reducing the load of public lighting.

Situation before the initiative

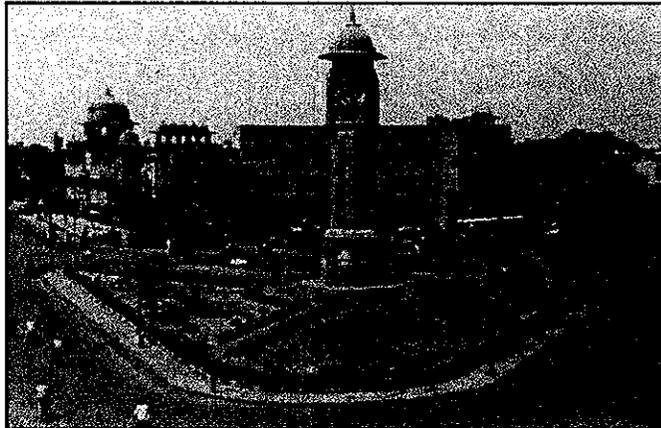
There are 11500 streetlights in the BMC. It was paying high electricity bill.

Strategy adopted

The corporation took following measures to save energy:

(a) Switching-off the alternate streetlights after midnight

- Bhavnagar City has major streetlights installed on the single sided GEB poles. On major roads, central lighting is provided.
- To conserve the energy, alternate central and all single sided streetlights were switched off after the midnight.
- This was able to save 50% electricity load of the department.

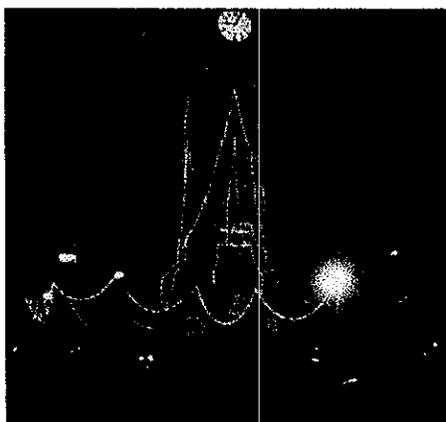


(b) Replacing the tube lights with energy efficient lighting fixture

- 250W and 150W high-pressure sodium luminaries were installed in the place of 400 and 200-Watt mercury lamps to save energy.

(c) Saving electricity in public lighting

- The lighting department illuminates monumental buildings of the city. A lot of energy is used in this.



- To save the energy, the corporation decided to switch-off the unnecessary lights.
- Gangadhari town hall is a typical example of this kind. Generally 20-25 kW of lighting load is required for its perfect lighting. To save energy 30 lights were closed and proper lighting could be achieved in 4.2 KW lighting load.

Results Achieved

The electricity bill was reduced with the introduction of above measures.

Fig. Saving energy in public lighting

Lessons learned

There is a large potential of saving energy in the lighting department.

Transferability

All local bodies should consider adopting similar measures to save energy.

6. Latest and modern metering equipments for proper monitoring of water supply

BMC is the first corporation in the state to have installed metering devices in the water supply system in 1993-94. This has helped the corporation to monitor and reduce the energy bill.

Situation before the initiative

- Shatrunji Pipeline scheme was started by the BMC for augmenting the water supply of the city.
- Gujarat Water Supply and Sanitation Board (GWSSB) executed the scheme for the corporation. BMC had taken over the Shatrunji pipeline project in 1987- 88. Online metering devices were not provided by GWSSB as larger size meters were normally not giving satisfactory performances.
- Proper monitoring of the system was not possible in absence of a metering device.

Strategy adopted

- Modern metering devices of electro-magnetic type were purchased and installed by the BMC.
- The devices gave periodical readings, cumulative readings and daily print of stored computer data, etc. These facilities helped BMC to a great extent in evaluating the performance of the system to measure any increase in the discharge.
- Following projects were executed with the help of the metering devices:

(a) Stage improvement of the existing Submersible pumps

- It was observed that the system pressure increased as more pumps in parallel were operated. This increased the head of pumping and subsequently reduced the total discharge.
- Submersible pumps, which were of 50M head and 15000 LPM, were operating at 55-56 M head with discharge of almost 8000-9000 LPM. Replacement of the adequately sized pump was an easy available option but to save energy, the corporation introduced another measure.
- Submersible pumps have three stage bowl assembly and are attachable to each other having independent impellers on a common shaft. It was decided to try and add one more bowl with impeller. The extended shaft increased the head of the pump so that more discharge could be made possible for the manufacturing company.
- This gave encouraging results whereby about 20-25 % increase in discharge was available.
- Slight modification in the existing pumping machines yielded rich rewards, which benefited the city with increased drawl of water.

- As per the provision in the Shetrunji pipeline project second stage, pumping machinery had to be replaced to obtain higher discharge.
- It was decided by the authorities to evaluate the status of existing machinery first-for identifying the shortcomings and deficiencies, and then go for the second phase of the work.
- L D Engineering College, having experienced civil, mechanical and electrical experts was retained to render consultancy for this status evaluation study.
- The consultants recorded the parameters closely and examined the existing machinery.
- It was found that the submersible pumping machinery was operating at much lesser efficiency i.e. about 50 % and hence was consuming more energy giving lesser discharge.
- The study indicated the requirement of the higher efficiency pumps for saving the energy.
- Proper status evaluation studies by BMC thus, have made remarkable change in the planning course.

(b) C-Value verification of existing transmission main

- Besides the status evaluation study of the pumping machines, the status of the transmission main was found necessary to be evaluated.
- M/S Sureseas of Mumbai were contacted to undertake the status evaluation study.
- Several online pressure reading were taken for identifying the hydraulic grade line and the subsequent HF losses.
- It was found that the HF losses of the transmission mains were excessive and the C - value of the mains were identified to be very low i.e. 60-70.
- Reasons cited by the consultants for such a condition were blocked, algae growth, partial opening of the valves, air locking, etc.
- This was also causing system deterioration.
- The above study highlighted the importance of status evaluation studies of the transmission main, which if properly done can enhance the carrying capacity of the transmission main.

Results Achieved

This exercise helped in saving energy consumption of the corporation. It was able to save 25-30% energy by the planned measures.

Lessons learned

Modern metering equipments must be installed to regularly monitor the water supply and sanitation system. The regular monitoring will help to take energy saving measures and will also ensure an efficient service delivery.

Transferability

The local bodies managing the water supply and sewerage systems should consider installing modern monitoring equipments.

7. Involving polytechnic students for detail designing of the sewerage network

Polytechnic students were involved in the designing of new sewerage network. This saved money for the corporation and provided first hand exposure to the students.

Situation before the initiative

- Locals body either hire experts to design sewer network for the new areas or do the job by themselves.
- Normally municipal staff is engaged in day to day work of maintenance and hardly gets any time for other works. Whereas hiring a consultant requires a lot of money.

Strategy adopted

- At BMC a novel way was tried with the local students.
- The students along with teacher were approached. Specific job requirement regarding the design of the new sewerage network was explained to them in detail.
- The students carried out the project as their assignments. They undertook detail survey of the area (Subhash Nagar), prepared design of the network and also calculated the cost estimates. The scheme was submitted to BMC.

Results achieved

- The scheme was found to be cost effective as the BMC saved the consultancy cost of 3-4 lakh.
- Students got the first hand exposure of the field and were happy with the live project experience.

Lessons learned

Technical resources of the city especially the students can be involved in the daily works of the local bodies. This will not only save the money but will provide better services. It will also help the students.

Transferability

Smaller local bodies with limited financial capacities should consider taking similar scheme.

Jamnagar

City Profile

Best Practices of the Jamnagar Municipal Corporation (JMC)

- 1. Initiating private donation for beautifying the city**
- 2. Developing municipal plots to generate revenue**

Best Practices of Jamnagar Area Development Authority (JADA)

- 1. Use of video film in the development plan preparation**
- 2. Increasing the revenue base**

Jamnagar

Jamnagar is the biggest urban centre in the coastal region of Gujarat. It is an important station on the Bombay–Okha–Porbander broad gauge railway line. The city enjoys the privilege of being a centre of all the three wings of armed forces viz. Army, Navy and Air force. Available historical references suggest that Jam Rawal founded Jamnagar in its present location in A.D. 1540, as Darbargarh.

The city is a major industrial centre owing to its rich deposits of minerals and its nearness to the sea. Major industries here are salt industries, brass parts, brass casting, hardware, building materials, cement, textiles, engineering machineries etc. The brass parts, prepared here, are exported to different countries. The region contributes to 40% of the salt requirement of the nation. Recently in the western corridor towards Sikka, large public sector investment is taking place in the form of establishment of oil refineries. Reliance, Essar, GSFC fertilizer plant, etc. are being set up here, which together will create a tremendous impact on the development of the city.

Location and linkages

Jamnagar is situated at a height of 20 meters from MSL. The north boundary of JADA touches the coastline of the Gulf of Kutch. The city is well connected with the adjoining areas with state highways and proper road network. The city also enjoys a well-knit railway network, which connects it with the Saurashtra region, whole Gujarat and India. Indian airlines operate the air services here, which connects it directly to Bombay.

Demographic Profile

The population of the Jamnagar region has increased more than six times in the last six decades but the rate of growth of the population is rapidly decreasing since 1971. High rate of migration from the district due to consecutive drought condition is the major reason for this decline. According to 1991 census the total population of the JMC area was 341637 and that of total JADA 423028. The walled city occupies 8% of the total area but accommodates 30% of the total population, outside the walled city the population distribution ranges from 6-24%. The density of the walled city area is 528 PPH and rest of the city is 113 PPH. The density of the entire city area is 148 PPH. Area under JADA –is 26.10 acres?

Major Industries and Institutions

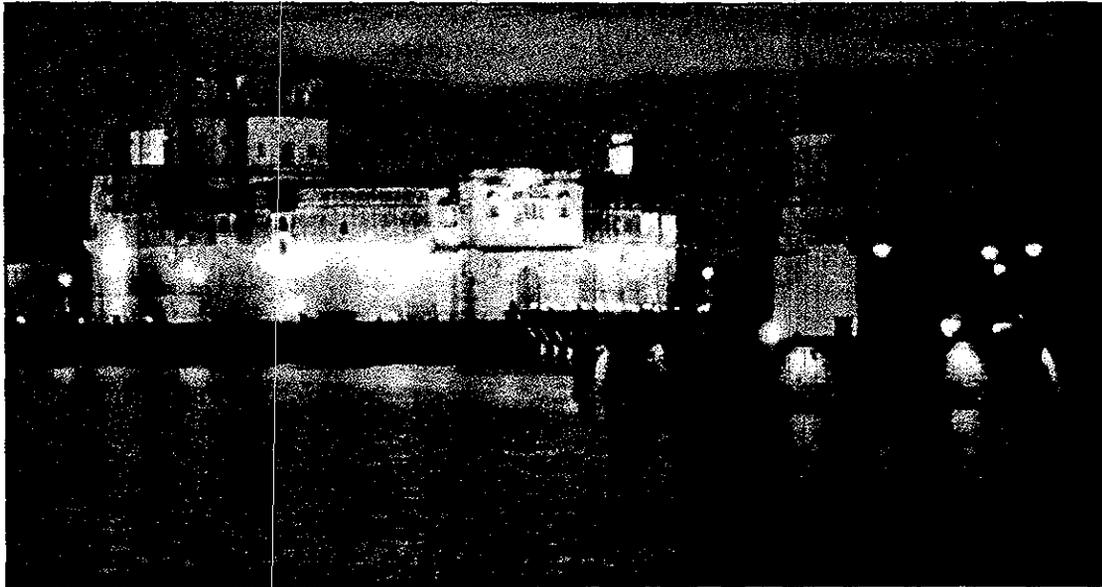
The district is rich in terms of Bauxite and lime stone. A number of salt industries, brass cuttings, building material, oil and chikori industries are located here. There are 4000 units engaged in the brass parts work. In addition to it about Rs. 10,000 crore investment is being done by Reliance and Essar which will change the face of the area.

City development

Jamnagar Area Development Authority was established under the Gujarat Town Planning and Urban Development Act, 1976 on 1st February 1978. The main functions of the authority are to undertake preparation of the development plan, town-planning scheme, control of developmental activities, hold manage or dispose any property and provide for essential services. Presently, the JADA board consists of seven board members and two invitees. JADA has prepared four Town planning schemes and one development plan of the city.

Best Practices of the Jamnagar Municipal Corporation

1. Initiating private donation for beautifying the city



The corporation has initiated private sector participation in its efforts for beautifying the city.

Situation before initiative

- The city of Jamnagar is a historic town, with a beautiful lake, bazaar and a number of historic buildings.
- The roads of the city were not having traffic islands.
- No measures were taken for adorning the city.
- Corporation had limited budget to take up such activities.

Strategy adopted

- To improve the condition of the city, private donors were called to sponsor important traffic circles of the city.
- The sponsors were allowed to put their name on the circle but they were designed and monitored by the corporation.
- Private parties were also called for beautifying the lake and for providing garbage-collecting bins.

Results achieved

- The corporation was able to collect Rs. 10-15 lakh and was able to build six traffic circles on the major roads of the city.
- A private company lighted the lake of Jamnagar with three floating fountains.

- Since the traffic islands and the lake were renovated through public participation, they took great care to maintain and clean them. It enforced a sense of responsibility among the citizens.

Sustainability

Encouraged from the co-operation received from the citizens, the corporation is planning to get public participation in other activities.

Lessons learned

Public and Private participation can be initiated for fostering responsibility among citizens for their city. It will also save money of the corporation.

2. Developing municipal plots to generate revenues

JMC has taken certain initiatives like selling of municipal lands and improvement in the octroi collection to increase the financial resources.

Situation before the initiative

- Lack of financial resources to take up developmental projects.
- Octroi collection was not upto the mark.

Strategy adopted

Following initiative was taken:

- A new scheme under the IDSMT project was taken up in the city to increase income of the corporation.
- Municipal land was developed and sold through public auction. Two shopping complexes were developed by the corporation and sold. This fetched corporation a revenue of Rs. 5 crore.

Results achieved

- Revenue increased by 7 crores per year.
- Octroi collection improved.

Lessons learned

All areas of revenue generation should be identified and developed. There exists a scope of increasing revenue.

Transferability

Small local bodies with limited financial resources should consider the above measures.

Best Practices of the Jamnagar Area Development authority (JADA)

1. Use of video film in the development plan preparation

Video film was prepared by the JADA to show the status of existing land use (with reference to the development plan) to the standing committee members. This helped the political leaders as well as the JADA and JMC officers to understand the problems of the area better.

2. Increasing the revenue base

- As a measure of increasing income the Authority is developing its plots and selling them. Sardar Patel Bhavan was accordingly built on the JADA's land with 62 shops on ground floor and 28 residential flats above. A new project is also being taken up.
- This method is not reliable as the selling of plots/ flats/ shops depends upon the development of the area.

Porbandar

City Profile

Best practices of Porbandar Municipality

1. Improvement in the House Taxes

Porbandar

Porbandar is a historic town and the birthplace of Mahatma Gandhi. It is a commercial city, with rich mineral deposit of limestone, bauxite, chalkpowder etc. Porbandar is a class "A" municipality with the population of 1,04,585 (as per the 1991 census) and an area of 12.24 sq.km. The town is situated on the western part of Gujarat in the Junagarh district. Major industries of the area are cement, sodash, ghee, and ship making. The town is one of the major fish exporting areas of the country.

Best Practices of Porbandar Municipality

1. Improvement in the House Taxes

Porbandar municipality introduced area based house tax on the place of unfair rent based tax collection.

Situation before the initiative

- A major portion of the municipality's income is spent on the establishment charges and repayment of loans. There is paucity of funds for investing money in developmental activities.
- Main source of income of Porbandar municipality is Octroi. Although fishing is a major exporting item from this place, it is tax-free. No income is therefore derived from this activity.
- The second option to improve the revenue base is to improve the property tax. The recovery of property tax was less than the estimated in Porbandar. Main reason for this was that it was based on rent. More over the political leaders were not ready to increase the taxes as it could mean losing the votes for them.

Strategy adopted

- The municipality decided to take house tax based on built up area of the house.
- The president of the municipality and the major political head of the city were contacted by the chief officer and convinced.
- They were told that this method of collecting property tax is more rational because the rich person having bigger house will pay more and the poor with small house area will pay less.
- Also it will increase the earnings of the municipality without increasing the taxes. The proposal was approved by the council and implemented.

Results achieved

At present the property tax is collected based on the parameters of built up area and the zone (HIG, MIG, slum etc.).

The revenue income of the municipality has increased considerably from the property taxes.

Lessons learned

There is a need to introduce transparent and buoyant property tax formula. Area based formulae is one such measure to increase revenue base of the city on the basis of which rationalisation in property tax structure can be introduced.

Transferability

The example can be transferred to all the other local authorities, which are collecting property tax based on the rateable value.

Anand

City Profile

Best Practices of Anand municipality

1. Best among the IDSMT schemes in India
2. Successful running of UCD scheme

Anand

Anand is the headquarters of Anand district situated on the Ahmedabad-Vadodara route. This is a class A municipality with a population of 1,10,286 (1991 census) and area of 21.13 sq. km. Anand is famous for its pioneering role in developing one of the largest dairy cooperatives in the world.

The municipality has successfully implemented the Government schemes like IDSMT, UCD, etc.

Best Practices of Anand Municipality

1. Best among the IDSMT schemes in India.

Anand is one among the three towns in India, which has completed the scheme in stipulated time making successful use of money.

Situation before the initiative

- The municipality faced lack of finances for developmental activities.
- Anand municipality could not develop roads, provide adequate public facilities and other infrastructural facilities to sustain the rapid growth of the town..

Strategy adopted

- IDSMT scheme was launched in 1984-86.
- In the first stage, shops were constructed in the prime locations of Anand.
- Auction of these shops generated revolving funds for further development. It also generated further source of tax income for the municipality.
- On improving the finance the municipality took development of roads, community hall, community toilets, and site and services projects etc.

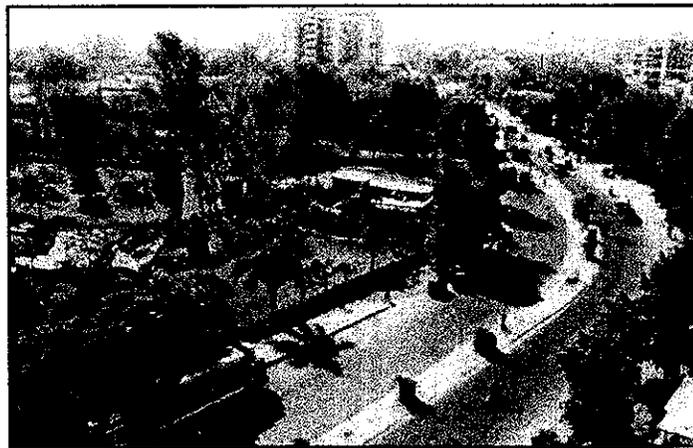


Fig. Development of roads under IDSMT scheme.

Results achieved:

- The municipality was ranked first in India for successfully and expeditiously implementing the scheme

Lessons learned:

- Strategic land can generate revenue for local bodies. If the shops are constructed at prime location better value can be fetched by their auction.
- Structured and timely use of funds will improve level of services and credibility of the local body.

Transferability:

The practice can be replicated in municipalities following IDSMT scheme.

2. Successful running of Urban Community Development (UCD) scheme

The municipality has successfully implemented a number of training and upliftment programs for lower and middle-income group people under the UCD project.

Situation before the initiative:

- The city has grown fast because of the presence of 'Amul' and other industries. This growth has created many urban problems like unemployment, diseases, etc. The position of economically and socially backward class has deteriorated rapidly.
- Anand city has 13 pockets of slums where 30,000 people live. There were no improvement programs undertaken for them.

Strategy adopted

- In 1986 the municipality adopted Urban Community Development (UCD) scheme with 60% government grant. Aim of the scheme was to raise the social, educational, and economic standard of the poor.
- A separate department was formed in the municipality with a project officer and four community organizers. At present the department has a staff of twenty people.
- The department is conducting a variety of programs for social, economic, and overall development. Foremost of the programs are as follows:
 - Free medical treatment camp in slums

Staff of UCD department Anand Municipality

Project officer
Community organizers (4)
Social workers (8)
Clerk
Instructors (4)
Peon

Many people in the city are unable to afford high fees of the medical practitioner. For such people the municipality organizes "Sarv Rog Nidan Shivir" or Medical camps.



Fig. Health camp organised under UCD scheme.

**Major activities of the UCD
department**
(1986 to 1996)

Educational Programme

Balwadi
Aanganwadi
Admission of illiterate children to the school,
School kit, textbooks school uniform distribution,
Guidance regarding birth certificate
Information regarding scholarship,
Exemption in the tuition fees

Health Programme

Immunization
Medical check ups
Camp for nutritious food, distribution of iron syrup, vitamin A solution,
Guidance regarding family planning
Eye camps
Child health competition

Training Programme

Tailoring class
Typing class
Knitting class
Embroidery class
T. V. repairing class
Loan to poor
Guidance for business,
Career guidance
Help for old, widows, etc.
Youth club
Bhajan mandal

One hundred and eighty qualified doctors provide their services free in these camps. The municipality provides free medicines and other facilities. People below poverty line are given permanent card, which gives the details regarding past illnesses and dates of check up. Time of availability of doctors and their field of expertise are also mentioned in the card for the convenience of user.

Programs for children

- The municipality gives special importance to the programs for children. These include:
- Toy library for young children who are unable to afford costly toys
- Free nutritious food is provided for children in government schools



Fig. Nutritious food for children under UCD

- Children living in slums are motivated by house to house visit to join school.
- Free school bags / books / learning kits etc. are provided to children every year. The municipality co-ordinates with NGOs and industries for this.

Schemes for lower/middle class youths.

- Classes for repair of television and other electronic goods, typing, sewing, etc. are taken by the instructors to prepare youths for self-employment. The UCD department feeds information about the employment opportunity for such youths.

These youths are also given jobs in the Nehru Rojgar Yojna. Such classes are conducted exclusively for girls also.

- Youths belonging to lower class or lower middle class are unable to afford computer education. For such young educated and poor people, the municipality has started computer classes at subsidized rates. Municipality has purchased eleven computers and provides computer training to the needy at concessional rate of Rs. 4,000 while the market rate is Rs. 10,000. Municipality will be able to recover the value of computers in two years through these fees.

Results achieved:

- 100% participation of people.
- The programs are highly cherished by the slum dwellers.
- Social condition has improved in the slum.
- 15000 people were treated in the medical camp in the year 1998.
- Anand has achieved 100% vaccination.



Fig. Computer classes for youths

- Twenty-five students have joined the school in July 1999 session because of the efforts of the UCD department.
- 75% (250) of the youths trained in the various training classes are now employed.

Lessons learned:

- Design the training program as per the local people's need.
- Assure community participation in the programs.

Transferability:

All the local bodies running UCD should consider adopting similar programs.

Gandhidham

City Profile

Best Practices of Anand municipality

- 1. Recharging rain water in the old lake**
- 2. Complaint management system**

Gandhidham

Gandhidham city is located in Kutch district near Kandla port. This is a class A city with population of 1,04,585 as per 1991 census. Area of the city is 29.58 sq. km. The economy is strongly linked to the Kandla port and Kandla Free Trade Zone. Salt farming is a major source of income. The developmental activities are done by Kandla Port Trust (KPT) and Sindhu Resettlement Corporation (SRC). The municipality has the duty to provide and maintain the civic services.

Best Practices of the Gandhidham municipality

1. Recharging rain water in the old lake

Situation before the initiative

- Gandhidham municipality maintains the areas developed by Kandla Port Trust (KPT) and Sindhu Resettlement Corporation (SRC). Construction and repair of roads, solid waste management, water supply, drainage, repair and maintenance of street lights etc. are some of its major functions.
- Availability of water is a major problem in the area. Kutch region falls in the lowest rain receiving areas of the Gujarat. Underground water resources have depleted over the years. Salinity ingress problem has reduced the availability of the potable water in the region.

Strategy adopted

- Kutch has the oldest knowledge to collect and store the rainwater. "Virdas" etc. are some of the traditional structures to harvest the rainwater. In the present times, such practices are almost abandoned.
- KPT realised the importance of water harvesting in the region and started a project to collect rainwater in the old lake of the city. An NGO Shri Vivekananda Research and Training Institute is helping in the executing the project.
- There is an old lake in the centre of the city. It was almost in the dying state, when the KPT took this project.
- The lake is being deepened.
- All the storm water drains of the nearby areas are connected to it. Most of the storm water drains are silted and old. This project is not only lying new storm water drains but also reviving the old ones.
- The project will take six more months to complete.

Result anticipated

- It is anticipated that after completion, the lake will be able to store rainwater for a longer period of the year.
- KPT is planning to rejuvenate other lakes of the city

2. Complaint management system

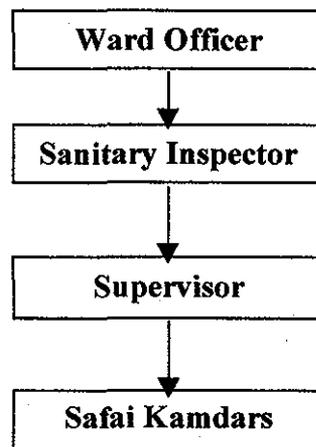
Gandhidham has an efficient complaint management system.

This is a form given to the complainer to be filled for lodging a complaint.

Gandhidham Municipality	
Complaint no. _____	Date _____
Municipality area/ ward sector no. _____	House Plot no _____
No water supply / Less Pressure.	

Gandhidham has seven wards in the city. Each of the wards has a ward officer, who registers the complaints. Ward officer looks into the complaints regarding sanitation, water supply, streetlights and solid waste management.

The complaints, which fall into other category are dealt at the main office.



The present complaint management system of the municipality has the following characteristics:

- There is a specific department in the municipality, which deals with grievance redressal of complaints.
- Three types of formats are prepared and kept at the counter by this department. One for problems related to water supply, another for drainage, solid waste management and the third for streetlights.
- The person filing the complaint is given a slip specifying the type of complaint. One copy of such a slip is sent to the concerned department and the other copy is kept at the department.
- If the complaint is resolved, signature of the complainer is taken and the slip is filed back, otherwise complainer can go to the higher offices for resolving the problem.

Navsari

City Profile

Best practices of Navsari Municipality

1. Solving water problem of the City
2. Reforms in property tax structure
3. Innovations in public toilets scheme

Navsari

Navsari is situated on the north of river Purna and is 20 km. away from the sea. It is an ancient town with a history of 2000 years. It was a harbor having business links with Greece, Egypt and Rome. It is the birthplace of Maharaja Sayaji Rao, Dada bhai Naoroji, JRD Tata, etc.

Today, it is the head quarter of Navsari district and the second biggest city in south Gujarat after Surat. As per the 1991 census it's total population is 1,26,089. It is a class A municipality with an area of 8.4 sq.km. The city is famous for diamond trade. Majority of the population is engaged in agriculture. There are several cotton mills in the city.

Best Practices of Navsari Municipality

1. Solving water problem of the city

In Navsari availability of water was not only scarce but also unfit for drinking. The municipality started a strategic project to solve the above crisis with people's participation.

Situation before the initiative

- The only source of potable water in the city is tube wells. Navsari has about 28 tube wells in different areas of 150 mm to 350 mm diameter and up to 220-ft. depth.
- Water from these tube wells is hard and unpleasant.
- Pumping of water to the overhead tank incurs extra cost.
- The city faces high salinity ingress due to the nearness to the sea (10 km) and tidal effect in river Purna
- The drawl of water from tube wells involves expenses. It costs Rs. 1 crore per annum for the local body

Strategy adopted

- After realising the fact that, the source of underground water is limited and not suitable for drinking purposes and it is quite expensive to draw tube well water, municipality decided to tap surface water. A big lake in the city known as "Dhudhia Talav" was selected for deepening and storing the rainwater. Simultaneously the city engineer of the Navsari municipality proposed a project to draw water from the Navsari branch of Kakrapar Project (GWSSB). The main canal of Kakrapar project is situated 3.25 km away from the city.
- It was realized that the geographical condition of the city allows canal water to be brought to the Dudhia Talav by gravity.



Fig. Model showing Dudhiya talav project.

The municipality decided to convey raw water from the canal to the Talav through gravity. It was decided to upgrade the treatment plant.

Different project components are described as under.

Gravity Main:

The RCC NP-2 class gravity main having 4 ft. diameter and 3250 meter length shall be laid from canal to Dudhia Talav water reservoir. Estimated cost -Rs. 70 lakh.

Storage tank (development of Dudhia Talav)

Reservoir of 8,40,000-cu.m capacity is being developed at the cost of Rs. 135 lakh. The whole lake is provided with plastic lining at the bottom to reduce water leakage.

Intake well

Intake well of six meter diameter and 10 meter depth is provided to transfer raw water from reservoir to the treatment plant.

Water treatment plant

30 mld capacity water treatment plant based on the Sludge blanket Lamella Clarifiers and High rate rapid gravity sand filters technology, is being constructed. The new plant will require less area and less chemical/ power consumption than the traditional one.



Fig. Water treatment plant

Shifting of slum quarters

The slums located on the bank of the Talav will be relocated to a plot reserved for EWS class. About 440 quarters are being constructed with the help of Rotary club of Navsari and the Slum clearance Board. There are 110 families, which are already shifted to the area. Infrastructure facilities are also being provided.

Other infrastructure facilities

Underground water storage sumps, overhead tank of 18,00,000 liter capacity, rising main, etc are also the part of the total water supply scheme.

Finance for the project

Total project cost is Rs. 8 crores. The GWSSB is providing 30% grant of the total cost. LIC is giving 52.55% of the total cost as the loan. GMFB has given a loan amount of Rs. 50 lakh.

LIC loan was available only after the commencement of work. Till that time the municipality took following measures to collect money for the project:

- Property tax was increased and it is anticipated that an additional income of Rs. 45 lakh can be expected each year. This will help in repaying the loan amount.

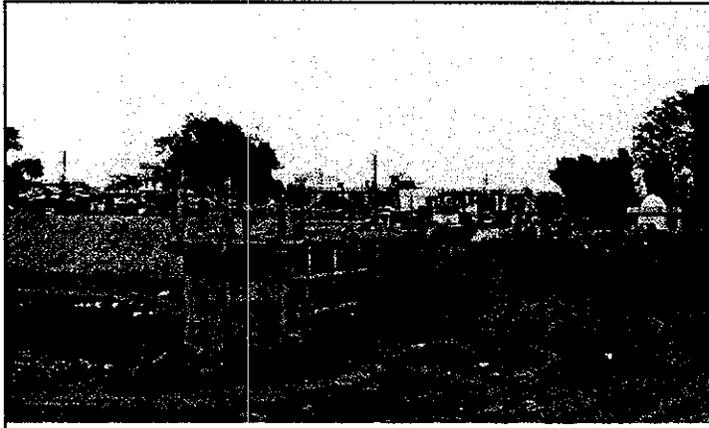


Fig. Deepening of Dudhiya talav and intake well.

Municipality officers conducted house to house meetings for motivating public and a substantial amount of funds were raised. This helped in continuing the project work during the initial phase when much of the loan amount was not available.

Results anticipated

On 25th December 1998, the project was sanctioned and work started soon thereafter in February 1999.

- It is expected that potable water will be available to the citizens of Navsari by the year 2000
- It is envisaged that Rs. 40 lakh per annum will be saved in the electricity cost after the functioning of the project.

2. Reforms in Property tax structure

The old rigid, unfair system of property tax was replaced with a more transparent system

Situation before the initiative

- The earlier system of the property tax collection was based on the value of property judged by property valuers.
- There was a lot of corruption in the process as the valuers were free to judge the value and had no common parameter. There was no monitoring agency to look into the matter.
- The system was non-transparent and unfair.
- Many taxpayers were either not paying taxes or paying the taxes very late
- Municipality was losing tax awards as well as credibility amongst the people

Strategy adopted

- It was decided to replace the old system by a much fairer and transparent system where built up area of the house and quality of road are taken as the parameters for levy of the property tax.
- Taxpayer can calculate his/her tax. The municipality has fixed multiplying factor for all the areas based on the nearness of the property to the type of road i.e.

Pucca, Katcha, Market area etc and the built up area of the property. People can multiply the built area of the property with the factor and arrive at the amount of tax to be paid by him.

Results achieved

- Corruption has reduced.
- Fair transparent and easy system inspiring people has been introduced
- 50% increase is registered in Property tax revenue.

3. Innovations in public toilet scheme

Municipality has responded to the needs of the slum dwellers by providing separate toilets for each family. New public toilet design is also made that consumes less water and require less maintenance.

Situation before the initiative

- Under the government's scheme, Navsari municipality provided one toilet per two families living in slums. The project was fully funded by the government.
- Since two families were sharing a common toilet, there were cases of dispute amongst them.
- The public toilets in the city were unhygienic and dirty owing to water scarcity.

Strategy adopted

- The municipality decided to provide toilet to each family. As the grant is available only for one toilet per two families, the local body decided to motivate people to bear half cost. Thus every family is being given separate toilet.
- In the conventional toilet design water consumption is more. It was realised that due to the 'U' pipe and water seal more water is required to keep the toilets clean. After some experimentation, the city engineer introduced channel pipe in the place of U pipe
- The channel is given slope of 1 to 2 feet. A water tank is provided near the toilets, overflow pipe of which is joined to the main channel. Water from the overflow pipe constantly cleanses the toilets.

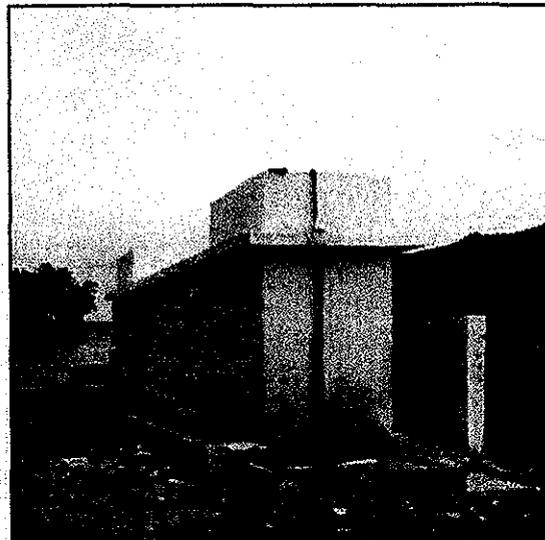


Fig. Public toilet with water storage and channel arrangement.

Results achieved

- Disputes in the families due to common toilets have reduced.

- The public toilets are now relatively clean and are consuming less water

Lessons learned

- Cost effective ways can be found to tackle the problems with public participation
- It is important to respond to the needs of local people
- To tackle the problems of conventional designs innovations can help

Transferability

Local bodies facing water scarcity and financial problems can replicate the initiative.

Himmatnagar

City Profile

Best practices of Himmatnagar Municipality

1. Enhancing the revenue base by increasing taxes and number of tax payers
2. Slum upgradation- successful implementation of SJSRY scheme
3. Improving health and sanitation of the city
4. Saving energy in street lights by the introduction of 'Timers'

Himmatnagar

Himmatnagar is the district headquarters of Sabarkantha district. It has a population of 51,461 according to 1991 census (approximately 70,000 in 1999) and an area of 8.82 sq.km. The town is situated on the southern and eastern banks of Hathmati river. It is famous for "Sabar" milk dairy and horse farm. There are several industries around the town such as cotton, ginning, soap, oil mills, rice mills, ice, pulse, pharmaceuticals etc.

Himmatnagar is a "B" class municipality and is one of the most progressive municipalities of the state. The municipality spends only 29% of its income on establishment e. It has taken a number of steps for the improvement of quality of life of citizens such as implementation of SJSRY, mechanization of services, computerisation of tax department, cleanliness drive in the city, etc.

Best Practices of Himmatnagar municipality

1. Enhancing the revenue base by increasing taxes and number of tax payers

Himmatnagar municipality was able to take a number of developmental projects after increasing its income by increasing the tax and numbers of taxpayers.

Situation before the initiative

- Due to political reasons, the municipality had not raised taxes for many years
- Only 20% of the citizens were paying taxes
- Income of the municipality was insufficient to take up new developmental projects

Strategy adopted

- In 1994-95, the elected body was dissolved and an IAS officer took over the administration of the municipality. This was an appropriate time for one hand decision.
- Tax on residential property was raised by 2% and on non-residential properties by 3%. The water tax was also increased from Rs 48 per year to Rs. 200 per year.
- To seek public support municipality published pamphlets and advertisements in the newspapers to highlight the importance of paying taxes. It was emphasized that if better services are required from the local body an increase in the taxes is must. Local TV channels also helped in creating awareness amongst the public.

Results achieved

- Taxpayers increased from 20% to 50% as the result of the awareness campaign.
- Income of the municipality increased from Rs. 98 lack in the year 1993-94 to Rs. 1 crore 49 lack in the year 1994-95.
- The municipality was able to take a number of new projects, namely improving the water supply system of the city, mechanization of streetlights and SWM services

Lessons learned

- Increase in taxes is a must to meet the growing needs of infrastructure
- Simultaneously massive awareness campaign must be taken up with the help of media to target the taxpayers
- Identify and list the tax payers who don't pay tax and target them.

Transferability

The initiative is transferable to in all local bodies.

2. Slum upgradation --successful implementation of Swarna Jayanti Shaheri Rojgar Yojna scheme

To improve the situation of slum dwellers not only the physical environment was upgraded but the social and economical conditions were improved with the successful implementation of SJSRY scheme.

Situation before the initiative

- In 1991 there were 12, 770 people (23% of the total population) living in slum areas.
- There was absence of basic infrastructure facilities like roads, water supply, streetlights etc. in these slum pockets.
- No steps were taken for improving the social environment of the slums. Youths were unemployed and the slum community had no say in the developmental decisions.

Strategy adopted

- In 1994-95 a slum survey was undertaken by the municipality to estimate the total number of people living in slum areas and their requirements.
- Based on the survey report, Government grant of Rs. 80/ head was availed to provide for the basic services.
- All the internal streets in the slums are paved.
- Streetlights, public urinals and water supply lines are provided in the slums.
- To improve social environment of slums SJSRY (Swarna Jayanti Shaheri Rojgar Yojna) was initiated by the municipality. Main features of the scheme are:
 - Training classes for technical and home based industry, loan for setting up house hold industries are given to the people below poverty line (earning less than Rs. 4400 / annum).
 - Empowering the slum community by electing their representative to the municipality and giving them high say in developmental decisions.

Results achieved

- Physical environment of the slums have improved
- 160 people has already attended the SJSRY training program
- Loan was given to 80 people in the year 1997-98



Fig. Improved physical environment of slums

Lessons learned

- Steps for improving physical and social conditions should be initiated together
- The residents should have the right to take decisions on what to be done to improve the situation

Transferability

All the local bodies can replicate the initiative.

3. Improving health and sanitation of the city

The municipality launched a number of programs to address the problems related to the health and sanitation of the city. This includes, cleaning the city before the onset of monsoon, distribution of dust bins and mechanization of the services.

Situation before the initiative

- Unhygienic and dirty condition of the market areas
- Per year 15-20 cases of TB and other lungs related diseases in Safai Kamdars (sweepers).
- Occurrences of infectious diseases in the city like malaria, dysentery, typhoid etc.

Strategy adopted

- Apart from the regular cleaning of the city, a massive cleanliness drive is undertaken the month before monsoon. Twelve wards of the city are cleaned one by one. Whole manpower and machinery is deployed in a single ward during the cleaning. All the drains, sewers as well as streets are cleaned. This is followed by spraying of medicines and insecticides like DDT, gammexine, baygon etc.
- Waste storage bags are distributed to the shopkeepers of the market area. Municipality gave 50% of the cost of bags while the rest 50% is contributed by the shop owners. The shopkeepers collect their waste in these bags. Municipality's tractor collects this waste from each shop in the afternoon.



Fig. Waste storage bags in the shops.

- To save sweepers from lung diseases, loaders and closed container type lid bins are purchased.

Results achieved

- In the last two years, after the introduction of massive cleanliness program before monsoon, number of diseases in the city has gone down by 50%.
- Market areas are now clean and hygienic.
- Number of TB cases has reduced to 3-4 per year.

Transferability

All the local bodies facing similar problems in health and sanitation can adopt the initiative.

4. Saving energy in Street lights by the introduction of “Timers”

The manual system of switching streetlights is now replaced with a much faster and energy saving mechanical system.

Situation before the initiative

- There are 5000 streetlights in the town. The municipality was regulating these streetlights manually.
- This was consuming more energy and time.

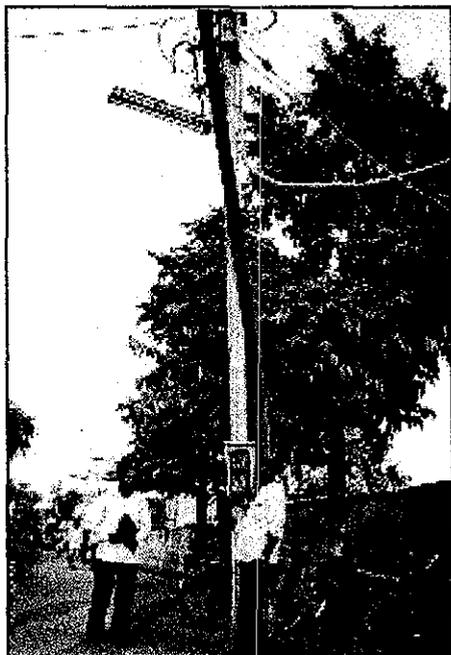


Fig. Streetlights are regulated by “Timers”

Strategy adopted

- Automatic switches -“timers” were introduced to regulate the streetlights mechanically. With the help of timers, all the streetlights can be lit at 7.30 in the evening and switched off at 5.30 in the morning.
- The cost of one timer is Rs. 200. 400 timers are required to regulate streetlights of the whole town.

Results achieved

There is a 10% saving in the energy consumption.

Transferability

The practice is transferable to all the local bodies following manual system of regulating the streetlights.

Valsad

City Profile

Best practices of Valsad Municipality

- 1. Setting up of composting plant for processing and disposing solid waste**
- 2. Privatization of octroi collection**
- 3. Drainage system for newly developed areas**

Valsad

Valsad is the southern most district of Gujarat. The town is located near Arabian sea on the Ahmedabad Mumbai route. Total population of the town as per 1991 census was 57,909. It has a strong agro based economy.

Valsad is a "B" class municipality. Continuous efforts to sustain the quality of work are made and the municipality is doing commendable works in the fields of solid waste management and municipal finance.

Best Practices of Valsad Municipality

1. Setting up composting plant for processing and disposing solid waste

Valsad municipality has set up a composting plant for the disposal of solid waste. The plant will earn revenue at the same time solving the problem of solid waste disposal.

Situation before the initiative.

- Municipality was collecting 16 m tons of solid waste per, while the total waste generation is 25 tons/ day. Tractors of the sanitary department are used to collect and transport the solid waste of twelve wards of the city in two shifts.
- The collected waste was dumped on the bank of Auranga river near Sandhpore Pardi, as the municipality did not have any other place to dispose the waste.
- Valsad, like many other cities of India, was disposing its waste by land filling. Lack of scientific methods of waste disposal and manpower was resulting into unhygienic conditions on the dumping site.
- Dumps of solid waste were creating nuisance in the nearby areas while polluting the river water.



Fig. Waste dumped on the bank of river Auranga

Strategy adopted

- Valsad municipality decided to set up compost plant when a local person of the city approached and offered his services for setting up such a plant. The municipality decided to go for it realizing the advantages of the plants over the conventional method of waste disposal.



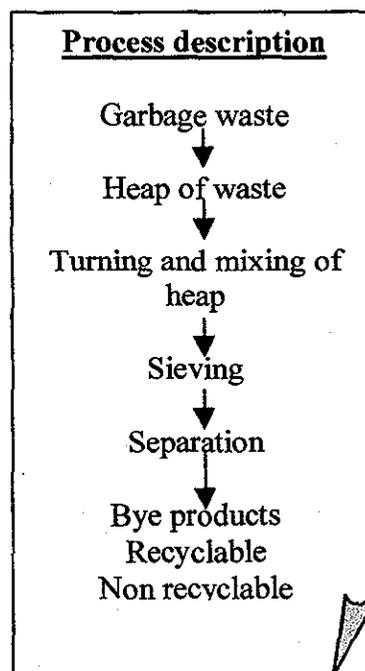
Fig. Organic fertilizer plant, which utilizes urban solid waste for making compost

- The municipality invited tender for the setting up and running of the composting plant.
- Composting plant based on the technology of aerobic digestion is set up near the sewage treatment plant and the old dumping site.
- The municipality has provided land and agreed for the delivery of collected garbage on the plant site.

Cost of the project	
1.(a) Processing Shed (b) Godown	12,00,000.00
2. Machinery: Pulverisers Unit- 2.00 Nos. Sieving Unit 2.00 Nos. Segregation Unit 2.00 Nos. Packing Unit 2.00 Nos.	28,00,000.00
3. Tractor/Loader 1.00 No.	5,00,000.00
4. Electric Power with Cables, Panel, etc. (16.00 H.P.)	10,00,000.00
5. Street Light	50,000.00
6. Retaining wall at River Site	2,00,000.00
7. Road facility	100,000.00
8. Container for Collecting System	1,50,000.00
Total	61,00,000.00

Results anticipated

- Land area requirement for disposal of solid waste is reduced
- The problem of disposal of waste will reduce considerably
- Municipality gets reasonable annual lease rent and royalty regularly to meet the collection cost partially.
- Clean and segregated refuse is available for reclamation of low-lying areas through land filling.
- Treatment of garbage with scientifically developed biological inoculum is the organic manure, which is very useful for agriculture and horticulture crops. Hence marketability of the manure is high
- Organic manure will rejuvenate soil. Agricultural productivity will considerably increase using this organic manure.
- Municipality will get reasonable income out of the sales of organic manure.
- River water will not be polluted by the solid waste of the city



2. Privatizing Octroi collection.

The municipality has contracted out the service of octroi collection to a private party. This has improved its financial situation.

Situation before the initiative

- Prior to privatisation of the octroi department, the municipality was collecting octroi duty from the octroi check posts.
- There was a shortage of manpower and other facilities for revenue collection.
- Unfair/corrupt practice of octroi collection prevailed.
- Revenue generation was less.

Strategy adopted

- Octroi collection was contracted to a private party through standard tender procedures.
- Amount of octroi revenue to be given to the municipality by private party was fixed at Rs. 3 crores per year.

Results achieved

- After two years of initiating privatization, private parties collect octroi from eight checkpoints in the city.
- The private party could collect 3 crores 41 lakhs in the first year and 3 crore 71 lakhs in the second year while municipality collected only 2 crore 80 lakhs in the year before privatization.

Lessons learned

Private sector participation can help in raising revenue of the municipalities.

3. Drainage system for the newly developed areas

Newly developed areas at the periphery of the city were not having sanitation facilities. The local body has set up a new drainage plant with the help of citizens.

Situation before the initiative.

- None of the newly developed areas on the periphery had any drainage facility.
- Unhygienic and unhealthy conditions prevailed in the area.
- There was a shortage of manpower and financial resources to take up drainage projects.

Strategy adopted

- Municipality motivated residents of the area to raise fund for the treatment of
- sewage and sewerage by door to door visits
- 80 % money was raised by the people and 20% by municipality.
- From the money raised an anaerobic treatment plant was set up



Fig. Sewerage treatment plant for the developed area

Results achieved

- The effort of municipality resulted in efficient drainage facilities.
- Situation improved and occurrence of diseases came down.

Vyara

City Profile

Best practices of Vyara Municipality

1. 100% efficiency in solid waste management
2. Green Vyara project

Vyara-

Vyara town is located in Surat district on the Surat-Songadh route. It was a panchayat in 1964 and became "C" class municipality in 1986. It has a population of 30,908 as per 1991 census. Area of the municipality is 7.92 sq. km. Considerable amount of money flows from the people went abroad and to the other cities in India.

The municipality has been awarded the best municipality award by the Gujarat Municipal Finance Board. This was in appreciation to the efforts made in the recovery of taxes (96%), reduction in establishment expenditure (22%) and services given to the people. Cultural and recreational programs are undertaken for involving public in every step.

Best Practices of Vyara municipality

1. 100% efficiency in solid waste management

Vyara has achieved 100% efficiency in solid waste collection. This has happened because of a strong leadership and continuous efforts.

Situation before the initiative

- Unhygienic conditions prevailed in the town and nearby areas.
- Highly infectious diseases like malaria, gastroenteritis, etc. were common.

Strategy adopted

- A sanitary committee comprising the president, sanitary inspectors of the municipality and some eminent citizens was formed.
- The town was divided into 25 parts and a number of awareness programs were held.
- The importance of good habits, segregation of animals from the living areas, use of dustbins, etc. was projected.
- 5000 dustbins (one for each family) were distributed of which 50 % cost was borne by municipality and rest 50 % by citizens themselves.
- Municipality purchased two tempos, two tractors and three two-wheelers with the help of GMFB fund.

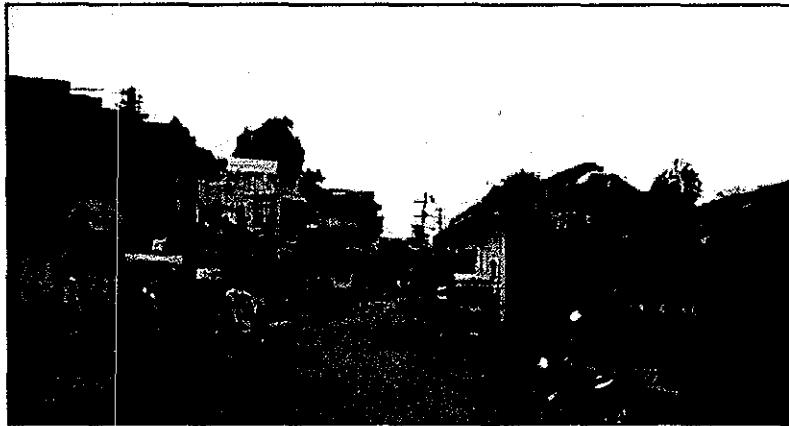


Fig. Waste collection vehicles, autos and trucks.

- These vehicles collect solid waste from house to house at stipulated time.
- Three thousand bags supplied by All India Institute of Local Self-Government are now given to the residents to segregate their waste into organic and inorganic components.
- To sustain the initiative, programs like lectures by eminent personalities in the field of solid waste management and prizes for the cleanest area in the city are introduced.

Results achieved

- The system of door to door collection is working efficiently without even five minutes delay for the past five years.
- A marked decrease of 50 % of diseases is noticed after the initiation.

Lessons learned

- Motivation and participation of public in the activities is very important.
- Sustainability programs are necessary



Fig. Clean streets of Vyara

Transferability

The practice is transferable to all the municipalities to achieve efficient solid waste management.

2. Green Vyara project

With the help of Forest department the municipality has taken up plantation program. Mass cooperation was achieved in the program.

Strategy adopted

- The municipality set up a special cell to implement the project
- The municipality collected 1500 plants from the Forest department and distributed to the interested people to raise the plants
- They also distributed tree guards worth Rs. 545 each to those who were participating in the program

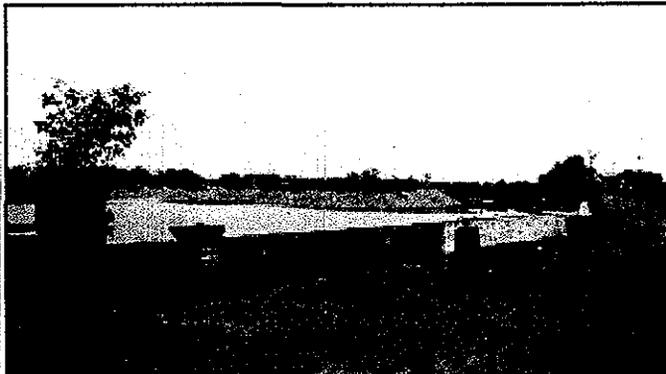


Fig. Road side plantations

- The cell monitored the activities and extended help to the needed participants

Results achieved

After four years of implementation 1435 plants survived and have grown well.

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