

A HUDCO - HSMI Publication

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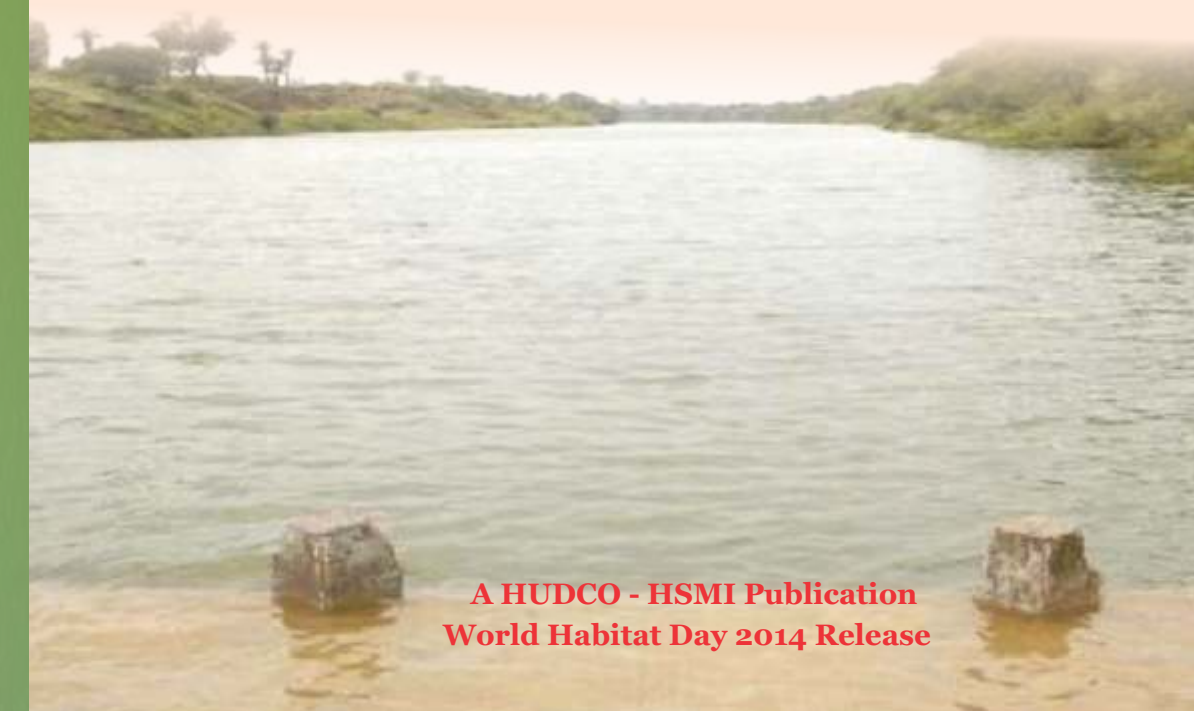
44

years of visionary
growth

2013-2014



HUDCO AWARDS FOR BEST PRACTICES TO IMPROVE THE LIVING ENVIRONMENT



A HUDCO - HSMI Publication
World Habitat Day 2014 Release

HUDCO Awards for Best Practices to Improve the Living Environment

**A compendium of the award winning entries and other appreciated entries received for the HUDCO Best Practices Award for the year
2013 -14**

A HUDCO – HSMI Publication



**HOUSING AND URBAN DEVELOPMENT CORPORATION LIMITED
NEW DELHI – 110 003**

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FOREWORD

Our cities are facing many challenges today. Rapid pace of urbanisation has outpaced the rate at which services can be provided, resulting in inadequate coverage and deficiency of basic services. There have been many efforts in different parts of the country to meet this challenge. The innovative ideas have been thought of locally and implemented successfully. However, all of them have not been recognised or documented systematically. Such best practices are emerging and need recognition, publicity, appreciation and replication.

HUDCO is a techno-financing Institution with significant contribution in the field of Housing and Urban Development, is striving in filling the gap for Basic Infrastructure and Affordable Housing in the country. HUDCO has started identifying and encouraging such Best Practices by awarding them annually in different spheres of habitat developments. HUDCO has also started documenting these Best Practices for the reference of others, as part of its R & D activities.

Entries for HUDCO Award for Best Practices 2013-14 had been invited from Government Organisation, Parastatal Agencies, Multilateral Agencies, Local Bodies/Authorities, Non-Governmental Organisations (NGOs), Community Based Organizations (CBOs), Private/Corporate Sector, Research & Academic Institutions or Public/Private Foundations. The entries were invited in various categories namely, Urban Governance, Housing, Urban Poverty & Infrastructure, Urban Transport, Sanitation, Environment Management, Energy Conservation & Green Building, Urban Design & Regional Planning, Inner City Revitalization & Conservation and Disaster Preparedness, Mitigation & Rehabilitation. A Committee comprising of eminent professionals with diverse background was constituted to select the winning entries. The Committee decided the winners through rigorous procedure by using evaluation criteria. This criteria is based on Planning implementation/ Process applied, Innovativeness/application of technology, Stakeholder's participation, Impact, Sustainability and Replicability. The Committee recommended Ten (10) awards out of 89 entries received from different organisations this year.

As per the past practice, this year also, HUDCO Award for Best Practices to improve the living environment for the year 2013-14 were presented to Ten Winning organisations for their outstanding contribution in different categories, on the occasion of HUDCO's Annual Day function held on 25th April 2014.

These award winning Best Practices are included in this publication for wider dissemination and replication/adoption in various housing and infrastructure projects throughout the country. This publication contains a summary of all the winning Best Practices, highlighting their salient features and a few other entries, which are also worth mentioning.

I hope that these splendid efforts of HUDCO's HSMI in bringing out this publication will encourage many other organisations in replicating the same to bring about improvements in the approach, delivery and management of various projects in our country. Also, I hope that these practices will be replicated by agencies of Central and State Governments and other Institutions.



Dr. M. Ravi Kanth, IAS (r)
Chairman & Managing Director

ABOUT THE AWARD WINNING ENTRIES

This year entries for HUDCO Award for Best Practices were invited in the following categories :

1. Urban Governance;
2. Housing, Urban Poverty and Infrastructure;
3. Urban Transport;
4. Environmental Management, Energy Conservation and Green Building;
5. Sanitation;
6. Urban Design and Regional Planning, Inner City Revitalisation and Conservation; and
7. Disaster Preparedness, Mitigation and Rehabilitation

89 No. of entries were received for HUDCO Award for Best Practices “To Improve the Living Environment 2013-14”. A Committee comprising of eminent professionals recommended following 10 institutions/organisations for their entries for HUDCO Award for Best Practices 2013-14 which were awarded on 25th April 2014 on the occasion of HUDCO’s Annual Day function. They are listed below in no order of preference:

Agency/ Stake holder	Name of Entry with category
Surat Municipal Corporation, Gujarat	Virtual Civic Centre – Anywhere Anytime Civic Centre and Citizen’s Connect – SMC Mobile Application under the Category of “Urban Governance”
Directorate of Municipal Administration Municipal Reforms Cell, Karnataka	Public Grievance & Redressal System (PGR), AASTHI (GIS based property tax information system), Service Level Bench Marking – TULANA and Fund based Accounting System (FBS) under the Category of “Urban Governance”
Commissioner of Municipal Administration, Chepauk, Chennai, Tamil Nadu	Pro-poor activities through Micro Enterprise support, Skill Training and Community Mobilization under the Category of "Housing, Urban Poverty and Infrastructure"
Indian Institute of Technology, Gandhinagar, Gujarat	Construction worker welfare programmes at IIT, Gandhi Nagar by Indian Institute of Technology, Gandhinagar, Gujarat under the Category of “Housing, Urban Poverty and Infrastructure”
Bhopal Municipal Corporation, Madhya Pradesh	Integration of City Bus Operation with Bus Rapid Transit System of Bhopal under Urban Transport under the Category of “Urban Transport”
Haryana Police Housing Corporation Ltd	Construction of Green Building by Haryana Police Housing Corporation Ltd. under the Category of “Environment Management, Energy Conservation and Green Building”

Urban Administration and Development Department, Govt of MP	Rain Water Harvesting in Gautampura, (MP) and Integrated Urban Sanitation Programme (IUSP) in Madhya Pradesh under the Categories of “Environment Management, Energy Conservation & Green Building” and “Sanitation”
Jaipur Nagar Nigam, Rajasthan	Waste to Energy Solutions by Jaipur Nagar Nigam, Rajasthan under the Category of “Sanitation”
Gangtok Municipal Corporation, Sikkim	Inner City Renewal/ Revitalisation under the Category of “Urban Design and Regional Planning, Inner City Revitalisation and Conservation”
Lucknow Development Authority, Uttar Pradesh	Urban Conservation and Revitalization of Hazratganj Precinct, Lucknow by Lucknow Development Authority under the Category of “Urban Design and Regional Planning, Inner City Revitalisation and Conservation”

I congratulate all the award winning agencies and other stakeholders who actively participated and are the winners of the HUDCO Award for Best Practices 2013-14 and I hope that by way of this compendium their efforts will be replicated to encourage such best practices in other parts of the country.



N.L. MANJOKA

Director (Corporate Planning), HUDCO

Acknowledgements

HUDCO's Human Settlement Management Institute (HSMI) would like to acknowledge all the organisations/institutions, NGOs, Private Sector and other agencies, which have responded to our request for submission of entries for consideration of award of the Best Practices. Their efforts to participate by way of submitting the entries in the required format have helped us to organise this activity in a sustained manner and we deeply appreciate and acknowledge their efforts. The support given by our Regional Offices have been vital in pursuing and encouraging them to participate in this activity. We would like to acknowledge the efforts put in by the Regional Heads and the teams of officers and staff at Regional Offices for giving their ample support.

We highly acknowledge the guidance and support given by CMD, HUDCO to HSMI team and deeply cherish his enthusiasm and encouragement given to us in carrying out this activity at various stages.

We would like to express our sincere gratitude to the Expert Committee consisting of eminent professionals in different fields under the Chairmanship of Prof. Chetan Vaidya, Director, School of Planning and Architecture, New Delhi and our editorial team who has devoted their valuable time to systematically evaluate and make presentation of the entries received to the Expert Committee Members. The role of HSMI team Coordinator Shri Surendra Kumar, Deputy General Manager (Projects)/Fellow with the help of Shri Jeewan Lal, Assistant General Manager (Sectt.), Shri Amit Singh and Ms. Aditi Saxena (Research Associate) has been commendable who have made significant efforts to organise the entries received and take follow up at all stages to ensure that this activity is properly organised and also in the publication of this document.



Dr S.K. Gupta

Executive Director (Training), HSMI



Award Winning Entries

SURAT MUNICIPAL CORPORATION

The Best Practice award in the category of “Urban Governance” was given to Surat Municipal Corporation (SMC) in recognition of its E-Governance initiatives namely Virtual Civic Centre – Anywhere Anytime Civic Centre and Citizen’s Connect – SMC Mobile Application

VIRTUAL CIVIC CENTRE Anywhere Anytime Civic Centre

BACKGROUND

Surat is the eighth largest city in terms of population in India and it is the 4th fastest growing city (as per City Mayor’s Foundation report). The jurisdiction of the city grown from 128 sq.km to 326 sq.km in the year 2006. The city has witnessed decadal growth of over 60% since last 5 decades with city population increasing from 2.8 million (census 2001) to 4.5 million (census 2011).

Surat Municipal Corporation is a local self-government which has come into being under the Bombay Provincial Municipal Act, 1949. It became one of the first municipalities of India in 1852 AD, and a municipal corporation in 1966.

SMC has taken many initiatives like City Civic Centers [elsewhere known as Citizen Service Center (CSC) or Citizen Facilitation Center (CFC)] for rendering citizen centric Services to the citizens in the year 2003 with a view to improve service delivery and bring in efficiency and transparency in municipal operations. There are 16 such functional centres which are offering wide range of services like

computerized payroll, property tax, vehicle tax, pension systems, E-tendering, Audit, finance and accounts, RTI, etc. The usage of these centres increased steadily over a period of time. It was also observed that the number of transactions increases substantially during the rebate period and billing period.

To enable the best in class services SMC has adopted and implemented information technology based tools in the area of e-Governance and m-Governance with a portfolio of over 45 applications and IT infrastructure of over 1200 desktops.

Despite its success, it faced difficulty in meeting public expectation. To overcome geographical, demographical and time barriers attached with CSC/CFC a web based portal VCC is planned which is accessible through SMC’s website.

SUMMARY

Virtual Civic Center is aimed to overcome the limitation of conventional physical civic center / citizen facilitation centers and acts as an add-on service delivery channel.



This successful initiative has a high penetration and popularity among citizens, is of immediate and lasting individual and public benefit, is low cost, easy to access and the system is replicable and scalable.



The implementation of these initiatives offers satisfaction both to organization and citizens far greater than effort and cost.

Virtual Civic Center aims to cover as many services that are offered through physical Civic Centers. The service delivery is electronic in nature and offered through the website of the corporation. The exhaustive portfolio of services offered along with various other features makes the Virtual Civic Center one of the best initiatives in country.

KEY DATES

1979	Start of Computerization
1982-85	Development and implementation of computerized payroll, property tax, Vehicle tax
1990-92	Property tax Online Receipt System Computerized accrual based double accounting system
2000	Birth and death system implemented
2001	IT Plan for computerization at SMC
2003	Started City Civic Centre (CSCs/ CFSc)
2007-08	<ul style="list-style-type: none"> e-tendering adopted Information kiosks
2009	<ul style="list-style-type: none"> m-Governance started with vaccination alert system
	<ul style="list-style-type: none"> Mobile van to cater to remote areas

2010	Single no. helpline as an add on to complaint management system
2011	Revision of IT plan
2012	Virtual Civic Centre
2013	Mobile App.

MOBILISATION OF RESOURCES

For the purpose of catering the services through physical Civic Centers, SMC had created the applications and databases for various applications. These desktop based applications are used by SMC employees to render services. To make these services available through virtual civic center, the web based portal is created wherein all the transactions related activities are now done directly by the citizen. To enable collection of taxes and charges, the payment gateway is securely integrated with corporation's website and database. Necessary security has been placed at Server, Database and Network level. Other aspects such as user friendly user interface, local language support, user intimation, system security and sanctity were also of prime importance.

SMC has the in-house development team which is deployed with a view to take care of various IT requirements of SMC. Resources from this team were mobilized to carry out necessary front-end and back-end development and to integrate them with existing IT applications. Since, the in-house team was involved in Mobile App development, no additional budgetary provisions were required to be made.



PROCESS

The Virtual Civic Center completely removes manual interventions of SMC employees for service delivery. The service delivery is completely automated and electronic in nature. The services are offered on-the-spot from SMC's website. Various measures are taken to make the Virtual Civic Center services easily accessible and popular amongst the citizen without any additional cost attached to it.



RESULTS ACHIEVED

Virtual civic centre got a very good response and it can be said that if the latest technology is used with necessary checks and balances it can help both citizens and organization in achieving efficiencies. The SMC at large benefitted in multiple ways by reducing the manpower cost, operational costs, increasing transparency, etc. Over 44,000 transactions have taken place since its inception in April 2012.



From above chart it can be seen that the number of transactions rose by 60% whereas the value of transactions rose by 127%

Brief of Services Covered

- Payment of Property Tax Including Advance Tax
- Payment of Profession Tax for Enrollment Certificate (EC) & Registration Certificate (RC)
- Payment of Water Meter Bills for residential and non-residential connections
- Renewal of Shops & Establishment Registration Certificate
- Issuance of Birth & Death Certificate
- Download of Forms at free of cost
- Feedback regarding services offered



In graph above the bar's with green colour is the SMC's Working Hour and the blue represents non working hours which clearly shows that 51% of the transaction have taken place outside SMC's public service hours and remaining 49% taken place during normal working hours.

Impact Assessment (pre and post)

DESCRIPTION	PHYSICAL CIVIC CENTRE	VIRTUAL CIVIC CENTRE
Service Delivery Channel	By visiting any of 16 Civic Centers	Through internet
Service Delivery Time	Accessible during all working days from 1100 hrs to 1700 hrs	Accessible all days
Mode of Service Delivery	Delivered through SMC employees	Obtained through website
Application platform	Through desktop based client server application	Through web based client server application with same backend as for physical Civic Centre
Cost to obtain service	No additional service charge	No additional service charge and no additional payment gateway transaction cost
Travel cost	Travel cost is incurred as physical visit is required for obtaining services	Services are accessible from any place anytime, hence no travel cost incurred by user
Indirect cost incurred by user	Indirect cost is in terms of time, opportunity cost in terms of time consumed in obtaining service rather than utilization of economic activity.	Transaction time is at max 2-5 minute. Hence can be performed during free time between working hours.
Green Governance	Receipts are printed on paper, two copies in single A4 page with perforation in between.	Receipts and certificates are available in form of pdf
Capacity building	Necessary training provided to the operators	No specialized training is required
Citizen charter	The services are offered instantaneously but one needs to wait in queue in case of rush	The services are delivered on the spot

SUSTAINABILITY

Financial Sustainability

No additional operation expenditure is required to be incurred for enabling Virtual Civic Center as it utilize the same resources (like power, internet bandwidth, etc.) which are required and already available for running the corporation's website. The application maintenance is done in-house. SMC is not incurring any fixed or recurring charges for integration and offering the payment gateway services.

TECHNOLOGICAL SUSTAINABILITY

The web interface of the virtual Civic Centre is designed with latest net framework and is well integrated with existing application which is also designed with Microsoft technology at front-end as well as back-end. Due to popularity of the technology ample skills are available easily. Moreover, plugin oriented Architecture offers facility to use common services across multiple applications and also provides flexibility to enroll other services with an ease.

ENVIRONMENTAL SUSTAINABILITY

Due to Virtual Civic Center, people can access the services from their convenient place. They need not travel to SMC offices. In a larger context, the reduced footprints lead to reduced fuel consumption and reduced pollution. The receipts and certificates are available in the form of PDF for user’s future reference which results in less paper consumption.

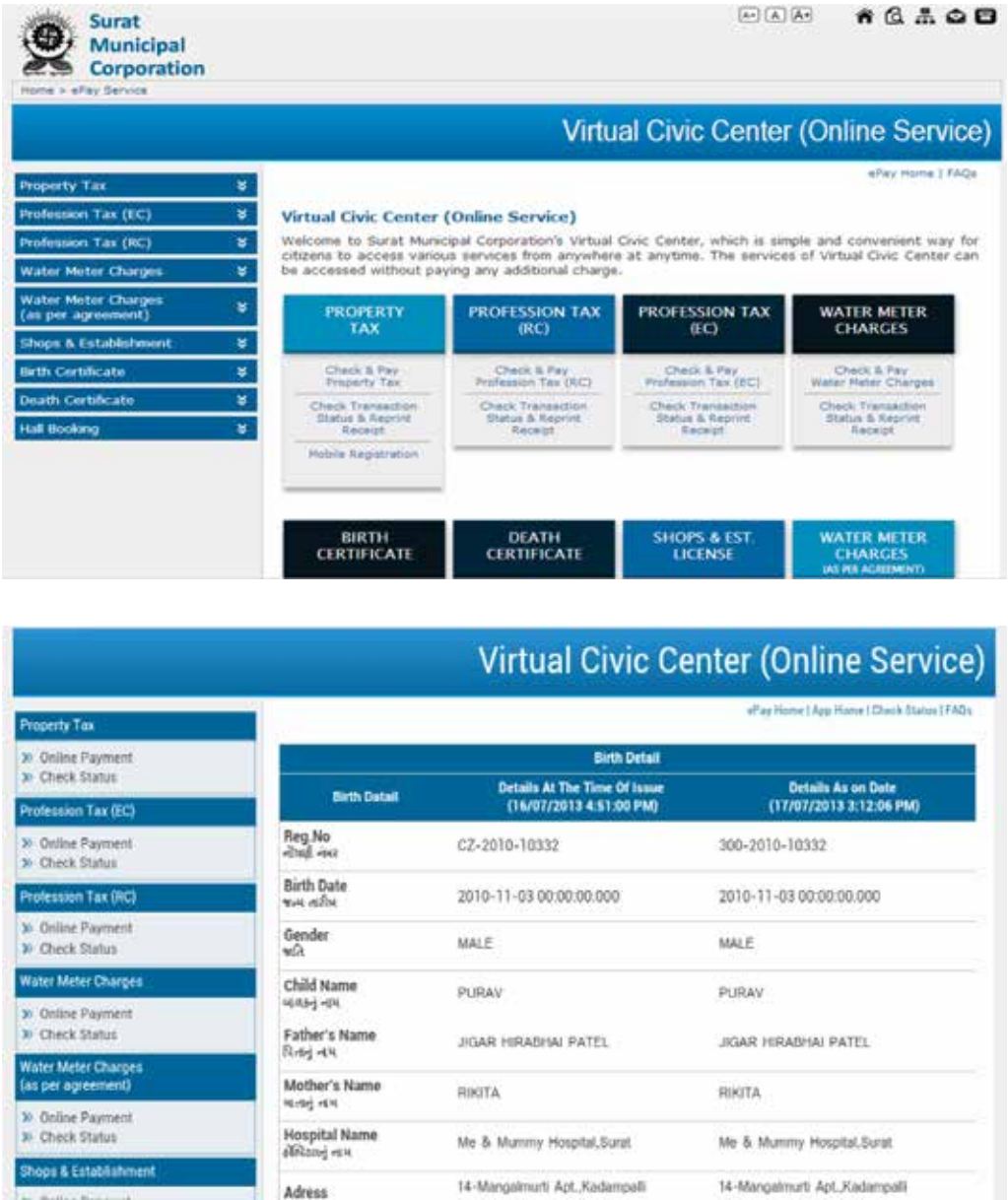
SOCIAL AND CULTURAL SUSTAINABILITY

The easy user interface and local language support ensures that any person with minimum computer knowledge can access the services. There is no extra charge for accessing services through Virtual City Civic Center which ensures

that it appeals to all sections and classes of society. Availability of over 100 payment options ensures that the service is not limited to customers of specific bank(s) or specific debit/ credit card holders.

TRANSFERABILITY

As part of starting physical City Civic Centers, SMC has already has IT applications for various citizen centric services. The past experience and setup helped in development of the application and interface for virtual civic center. SMC is planning to start offering services currently offered through virtual civic center from its mobile app as well. The existing web-service based architecture would be useful for it as well.



CITIZEN'S CONNECT

SMC Mobile Application

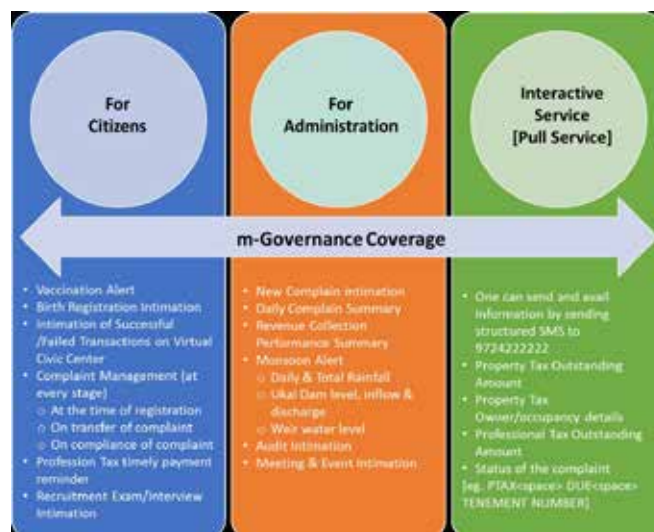
BACKGROUND

The initiative highlighted over here is that of SMC's Mobile App which is aimed to establish direct connect with citizens. The ever increasing penetration of smart phones has provided an opportunity to various government and non-government organizations to use this media to offer services to the customers.

SMC has become the frontrunner in utilizing this medium by offering various information and services on the go through its Mobile App. SMC is the first Municipal Corporation in India to have such mobile application for citizens.

SMC had started implementing m-Governance taking into consideration high penetration of mobile phones. The m-Governance was started in 2009 with a unique and noble concept of Vaccination Alert System. SMC was the first to start Vaccination Alert System and later on the concept was replicated by others.

Apart from above, SMC started various other services these services includes SMS notification on registration of complaint bearing ticket ID along with name and contact no. of SMC official responsible to resolve the complaint, transaction notification, alert for recruitment exams and interview, etc. The existing m-governance coverage is depicted below:



KEY DATES

1979	Start of Computerization
1982-85	Development and implementation of computerized payroll, property tax, Vehicle tax
1990-92	Property tax Online Receipt System Computerized accrual based double accounting system
2000	Birth and death system implemented
2001	IT Plan for computerization at SMC
2003	Started City Civic Centre (CSCs/CFSc)
2007-08	<ul style="list-style-type: none"> e-tendering adopted Information kiosks
2009	<ul style="list-style-type: none"> m-Governance started with vaccination alert system Mobile van to cater to remote areas
2010	Single no. helpline as an add on to complaint management system
2011	Revision of IT plan
2012	Virtual Civic Centre
2013	Mobile App.

MOBILIZATION OF RESOURCES

SMC is having various applications in place for the purpose of catering the services through physical Civic Center, Virtual Civic Center and

Information Kiosks. The Mobile App was designed in such a way that it seamlessly integrate with existing backend infrastructure. In-house development team is deployed with a view to carry out necessary development. Since, the in-house team was involved in Mobile App development, no additional budgetary provisions were required to be made.



- Check outstanding property tax and Water Meter Charges
- Check profession tax registration details with outstanding
- Check shops & establishment Registration Information
- Check Birth and Death Registration Information
- Rainfall Details
- Active Tender Details
- Complaint Registration
- Feedback

RESULTS ACHIEVED

SMC Mobile App got a very good response from the citizen. During the flood like situation in the month of September 2013 for three days, the mobile application was downloaded and accessed by number of citizens to receive the authentic and timely information regarding the rainfall and discharge from Ukai Dam. During this very short period, over 3 lakh hits were registered through Mobile App.

So far over 30,000 download took place through Google Play Store and Apple App Store. Over 8.5 lakh hits are registered through Mobile App. People not only living in Surat, Gujarat and India but also from other countries (over 15 countries) downloaded the application.

SUSTAINABILITY

Financial Sustainability

The cost to manage and maintain the Mobile App is very minimal as the same is developed

and managed in-house. The cost attached with making Mobile App available in market place through Google Play Store and Apple App Store is also nominal. In the backend, the mobile application utilizes the same resources (like power, internet bandwidth, etc.) which are required and already available for running the corporation's website thus making it financially sustainable.

TECHNOLOGICAL SUSTAINABILITY

The development platforms for mobile application are well defined and robust in nature. The future upgrades of SMC app will be available at free of cost from the Google and apple mobile app market place. In the backend, there is a common architecture for supporting different mobile application platforms like android and IOS which makes them easier to manage and it is also scalable in nature so that additional services can be easily incorporated.

Environmental Sustainability

Due to Mobile App, people can access the services from their convenient place. They need not travel to SMC offices. In a larger context, the reduced footprints lead to reduced fuel consumption and reduced pollution. Moreover, in future the mobile application will also enable financial transactions, which in turn reduce the footprints at the city civic centers and in turn lead to green governance.

Social and cultural sustainability

The easy user interface and local language support ensures that any person can use the mobile application easily. The mobile app is available for download at free of cost. The reduced prices of smart phone and internet services makes the mobile app accessible to larger section of society. Also the use of smart phone is not limited to youth but it is now being used by people of other age groups as well.

TRANSFERABILITY

SMC has launched Virtual Civic Center (online services) offering majority of citizen centric services to the citizens using the internet through www.suratmunicipal.gov.in. The Mobile

App also utilizes the backend architecture developed for Virtual Civic Center. In future the mobile app will also allow financial transactions utilizing the same backend platform. Thus, the technology and application already in place is used for enabling the services through mobile app.

LESSONS LEARNED

The mobile application got a very good response. As per the priority defined, the application was first launched for only Android based smart phones and later for iOS based devices. But immediately after the launch of android based app, lots of feedbacks were received to make it available for iOS. SMC took a quick call and expedite the development process for iOS as well and make available the iOS based application in quick succession.



Based on the response received, SMC is planning to incorporate host of other features in the mobile app including the feature for making payment for property tax, profession tax, water meter charges and availing Birth & Death certificates.



DIRECTORATE OF MUNICIPAL ADMINISTRATION, MUNICIPAL REFORMS CELL, KARNATAKA

The Best Practice award in the category of “Urban Governance” was given to Directorate of Municipal Administration Municipal Reforms Cell, Karnataka in recognition their following initiatives 1) Public Grievance & Redressal System (PGR) 2) AASTHI (GIS based property tax information system) 3) Fund based Accounting System (FBS) 4) Service Level Bench Marking - TULANA

Public Grievance & Redressal System (PGR)

BACKGROUND

The PGR module is a citizen friendly complaint registration and tracking system that functions over internet, Phone and Paper form. Through the Public Grievance and Redressal System citizens can register their grievances and be able to track progress of its redressal in a structured and efficient manner. Upon registration, the computer system generates a “**Complaint tracking Number**” using which the status and progress of the complaint can be checked by the citizen over internet.

The uniqueness of PGR system has been that it has introduced transparency and accountability from Municipal Administration. This system includes advanced features like, Auto routing of complaints to appropriate redressal officer and if the complaints are not redressed in the stipulated time, they automatically get escalated to the higher level officer. Application generates Unique Complaint Tracking Number which eases the tracking of the complaints. It helps in easy dialogue between citizen and redressal officer and it has the facility to forward the complaints to appropriate person.

Earlier manual system of grievance registration and redressal was a single track system where

in the citizen would approach the urban local bodies with a complaint, register it through a paper form or over the phone and keep wondering about the status of the complaint and its redressal.

KEY DATES

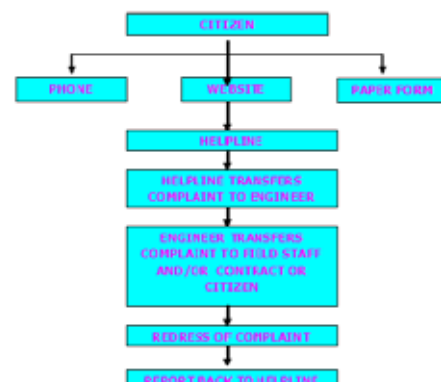
1st June 2005 - Launch of Application

16th June 2010 – Application Live in all 213 Urban Local Bodies

MOBILIZATION OF RESOURCES

Asian Development Bank funded "Nirmala Nagar Project" implemented in 47 ULBs and later from 2008 onwards in the remaining 164 ULBs under World Bank funded "Karnataka Municipal Reforms Project". An NGO is appointed on an annual contract basis by each Urban Local Body.

The entire process of rolling out of Municipal Applications of ULBs is handled by the IT professionals of Municipal Reforms Cell, duly appointed by the department, directly from the market. Municipal Reforms Cell hand holds the ULBs in implementation of computerization reforms and further maintenance of the same. The task of capacity building and training to Municipal staff is also vested with the Cell.



PROCESS

Through the Public Grievance and Redressal System citizens can register their grievances and be able to track progress of its redressal in a structured and efficient manner. Upon registration, the computer system generates a "Complaint tracking Number" using which the status and progress of the complaint can be checked by the citizen over internet "24X7". Complaints are also auto-routed to the appropriate redressal officer. If complaints are not redressed within the allotted time they automatically get escalated to the higher level officer.

ULB has appointed Non-Government organization(NGO) for fair handling of PGR cell with nominal monthly fee and also an agreement has been made between ULB and NGO with the condition that NGO has to work round the clock for City Corporations and City Municipal Councils and it has to work 12 hours for Town Municipal Councils and Town Panchayats.

1. Acceptance of application
2. Forwarding
3. Follow-ups

Follow ups and status inquiry by the applicants:

- By calling the ULB
- Online using complaint tracking methods -through the respective ULB website
- By visiting the ULB

Reports and Monitoring: Various types of reports are generated and are available on the system to show the performance of the system. Citizens can use their complaint IDs to track and monitor the progress. If complaints are not redressed within the allotted time they automatically get escalated to a higher level officer. *There are 148 types of complaints pertaining to different sections which can be registered through PGR system and status tracked.*

Complaint Name	Allotted time for escalation
Water pipes leaking	1
Supply of Drinking Water	2
Maintenance of Toilets	2
Working of PGR Module	2
Illegal connections for UGD	7
Complaint against garbage/sweeping contractor	7
Cleaning of storm water drains	15
Revenue loss by ULB Staff	15
Parking Issue	30
Multi-level parking	60

Time allotted for few complaints based on the severity escalated to higher officer.

RESULTS ACHIEVED

- Significant change in the perception of the common man about a government office.
- Introduced PGR–Citizen friendly complaint registration and tracking system that functions over internet, Phone and Paper form and status is trackable through complaint ID.
- Enables Citizens and other city stakeholders to understand the city's problems better and constructively participate in the governance of the ULB.
- Ensure availability of data for all the Government departments to use it for further value addition.
- Significant time-saving for the public for availing different services offered by the ULB. For example, the processing time for several issues has been reduced from several days to less than 1 day.
- Involvement of NGO to help illiterate and other needy people to complete their paperwork.
- Transparency has helped in increasing the confidence of citizens in the administration.
- Online status tracking help people know the status of their paperwork at any time from any place.



- Complete accountability is maintained as papers are delivered to people within the committed time. Daily summary and auto escalation of pending cases to the higher level officers has boosted the performance of the administrative staff.
- Useful to understand what kind of problems occur, at which parts of the ULB and at what time of the year
- Aid the administration to streamline the Municipal functions through process re-engineering and proper planning management.

SUSTAINABILITY

The PGR system was on PPP model which is also being periodically evaluated to understand the functioning of the system as against the design concept. An NGO is appointed to manage the PGR cell in a ULB, which results in fair functioning of the Cell.

Complaints are categorized into three types:

Immediate– to be replied, problem solved and attended within 24 hrs.

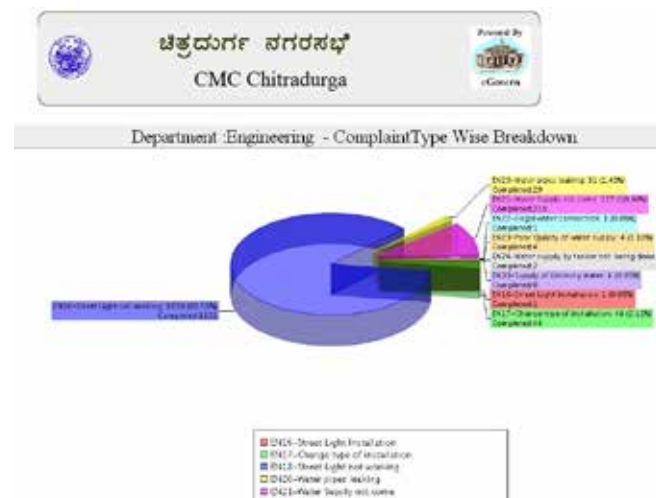
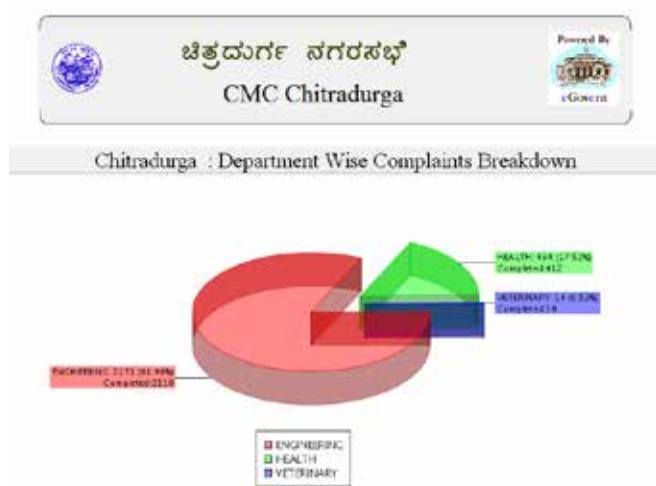
Priority – to be replied, problem solved and attended within 7 days.

Normal – either to be replied or problem solved or attended within 30 days based on the complaint type.

TRANSFERABILITY

This initiative was the first of its kind in India where a state-wide model of reforms was implemented. Traditionally, municipal e-governance reform initiatives have been driven at the local level, which have made them difficult to replicate. In the case of the Nirmala Nagar Project, the vision was to create a standardized set of systems and processes across the state which would not only provide the benefit of knowledge sharing across the individual bodies but also creates a common platform on which comparative evaluation between municipalities could be undertaken. Under this framework, some of the most innovative decisions taken on the e-governance front were:

1. Creation of a centralized system which was common in terms of process and data model across the state.
2. The centralized approach enabled the technology team to leverage the internet to develop an application that was accessed by the individual municipal bodies over the internet.
3. The applications are now hosted centrally at an independent entity (Karnataka Municipal Data Society) which provides the applications to the individual municipal bodies for an annual subscription fee. This is also a first under the Indian government context.

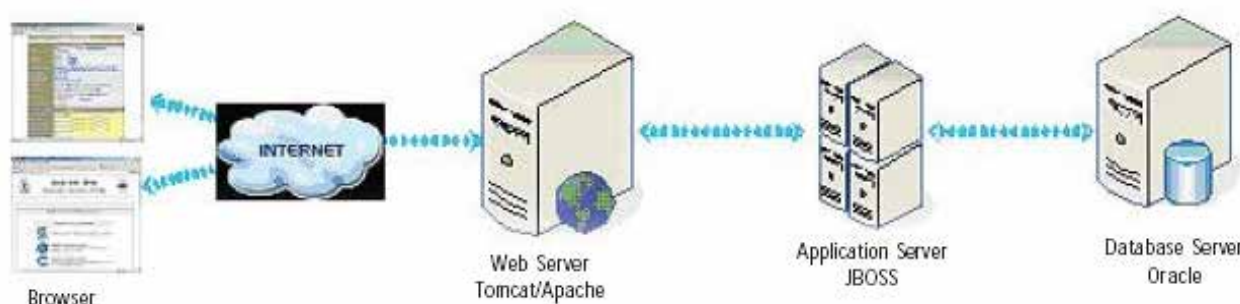


Fund Based Accounting System (FBS)

BACKGROUND

Fund Based Accounting System is a scientific tool which can be put to multiple uses. It offers best finance management as a core function with robust MIS layers at each of the departments of a ULB. It facilitates the achievement of right balance between resources and development demands. It ensures efficiency in application of scarce resources apart from refining budgeting process. It is a perfect back end system for any of the front

end E-Governance initiatives. It is also a tool of performance evaluation at individual official/ officer level, at each department level and at institutional level. It is an urban tool to ensure accurate, reliable & timely information about all the activities of ULB. It breaks the hierarchy in the management of urban information, thus retaining purity without any distortion of the field level information. It increases the confidence to share the information with stake holders such as NGOs, ROs, Scholars, Citizen etc.



KEY DATES

Name of the programme	Name of Agency Assisted	No. of ULBs	Date of Implementation
NirmalNagara Programme	Asian Development Bank	51	1-4-2006
		4	1-4-2007
Karnataka Municipal Reforms Project	World Bank	69	1-4-2007
		4	1-4-2008
		85	1-4-2009
TOTAL		213	

MOBILIZATION OF RESOURCES

Asian Development Bank funded "Nirmala Nagar Project" implemented in 55 ULBs and later from 2008 onwards in the remaining 158 ULBs under World Bank funded "Karnataka Municipal Reforms Project".

State Level Nodal Agency for consultation on accounting reforms was appointed for framing the implementation strategy. A special cell called Municipal Reform cell has been created to carry on municipal reforms, under this a dedicated team headed by Joint Controller,

FBAS Coordinator, 3 Accounts Superintendents along with 9 trained accountants were placed to monitor the Accounting Reforms implementation. Field level Consultants were also appointed to hand hold the ULBs during the inception for one year. Institutional head along with the accountant has been made accountable along with all section heads of ULB's for their roles and responsibilities.

Existing staffs of the organizations over 8000 were trained section-wise on their roles and responsibilities under the new accounting system and Field level consultants who are

Chartered Accountants, were put on board for each organization to train them on job and assist them in implementation during inception period. Accountant post, which has to be held by a B.Com graduate, is created to carry on the accounting job. Accountants were well trained in manual as well as in application software of accounting. Financial statement auditor who is a Chartered Accountant is appointed for auditing of financial statements for vouching the True and Fair view of financial reports.

PROCESS

The Fund Based Double Entry Accrual Accounting System enables the accuracy of records, preparation of financial statements, accounting of receivables and payables, segregation between capital and revenue items, which will depict a better financial picture of ULB and enables to endeavor better fund management, resource mobilization and budgetary control.

- **Disclosure of Accounting and Budgeting** information and financial position to public through ULB website and local newspaper.
- **Two rounds of Public participation** in preparation of Budget have been made mandatory.
- **All Assets and liabilities** of 213 ULBs have been brought into Accounts and over Rs.4033 Crores assets have been captured
- **Standard Chart of accounts** being used for Accounting as well as for Budget, which is uniform for all 213 ULBs.
- **Cost and Performance indicators** for evaluation of ULB's services and financial has been made part parcel of financial statements.
- **Audit** - In addition to statutory audit from the Controller, State Accounts Department, Financial statement audit from Chartered Accountants and complimentary audit from Accountant General, Karnataka also introduced.
- **Use of Computerized accounting system:** Municipal e-governance is one of the mandates of municipal reforms. A user

friendly software has been developed with the partnership of an NGO namely e-Governments foundation. Now in-house capacity has been developed.

RESULTS ACHIEVED

- For the first time in the history of ULBs in Karnataka, Opening balance sheets were prepared to incorporate the assets and liabilities in the accounts of ULBs. The Fixed Assets worth around 4033 cores of rupees otherwise unnoticed have been physically identified, enumerated and brought into records.
- The web-enabled software has enabled the Government in accessing database of all the ULBs on centralized server.
- Karnataka Municipal Accounting Manual is available as a ready reference to guide the ULB staff
- The new accounting rules make it mandatory to prepare fund wise accounting reports with following funds:
 - o General Fund
 - o Water Supply and Sewerage Fund
 - o Enterprise Fund
- This will assist in determining the extent of recovery of cost of providing services to citizens and ring fence the funds allocated for each purpose.
- The new accounting rules have mandated the preparation of City Management report for each ULB, including following;
 - o Audited financial statements;
 - o Details of major works carried out;
 - o Additional revenue generation measures for further developmental works; and
 - o Cost and Performance Indicators
- Introduction of pre-budget public consultations during budget preparation has resulted in higher transparency, general awareness about ULB accounts/finances and increased accountability.
- Institutionalization of reforms has enabled

grooming of in house experts who have conducted innumerable training for ULB staff regarding change in accounting procedure and their role and responsibility.

- Entire implementation phase of the new system is effectively completed, and financial statements of 213 ULBs are available.

SUSTAINABILITY

Transparency and accountability creates a sense of trust on the local authority of the staff, citizens, contractors, elected representatives as the focus is on deliverables, the implied continuity and support is achieved thereof, moreover this systems success is carrying this concept to all other Local Bodies in the state.

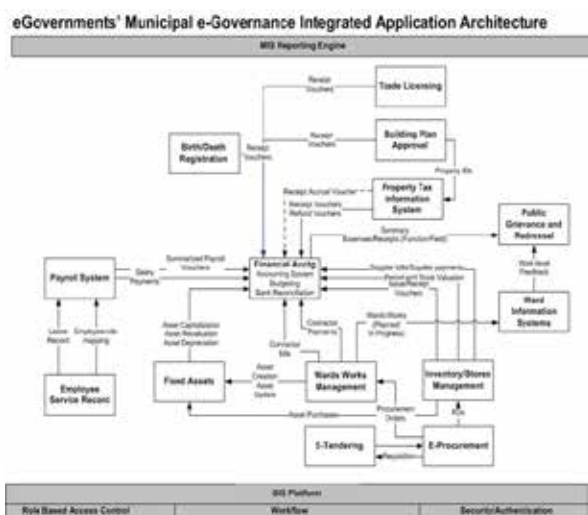
Better and effective use of resources, taking stock of works done directly helps in checking wastages, stopping misuse and helps to review consumption pattern of resources.

Most of the expenses are one time investments for establishment of equipment and training of staff to operate the software created and the benefits of structured information has a payback period of less than a year.

TRANSFERABILITY

Citizens can view the following financial details through ULBs website:

- Budget
- Balance Sheet



- Budget Variance Statements
- City Management Reports
- Cost and performance indicators
- Income Expenditure Accounts
- Notes to accounts
- Receipts and Payment Accounts
- Completed and ongoing work details etc.

LESSON LEARNT:

- An important lesson of the ULB experience with budgeting and financial management reforms is that implementation of innovative concepts is only possible if these are reoriented to the existing organization realities.
- A Management Information System can be effective only if hierarchical blockages to flow of information are removed.
- By the same logic a decentralized bottom up system of budget preparation is better than a centralized system.
- The most important learning from these initiatives is that transparency, clarity, and simplification are essential attributes for any scheme where citizen interface is required.
- Complexity of the information management has to be handled by use of computers and not by employees.
- Appropriate customisation needs to be done to suit even the lowest IQ employee.

Service Level Benchmarking - TULANA

BACKGROUND

Tulana – Service Level Benchmarking provides the mechanisms by which the ULB knows if it is achieving its objectives as the online application transforms data into information useful for decision making. The system is able to deliver following functions of monitoring mechanism that measures the output. A monitoring mechanism that produces information on the output that is accurate, timely, relevant and complete.

With the rapid economic growth the municipalities have been vested with certain obligatory functions and ULBs are under immense pressure and strain to meet the raising levels of demands and aspirations of their citizens resulting in undesirable levels of service delivery and insufficient utilization of available resources, the Directorate of Municipal Administration (DMA), Karnataka, took an initiative to build a common platform which could ease out the tracking and management aspects of various sectors for improvised governance in ULBs.

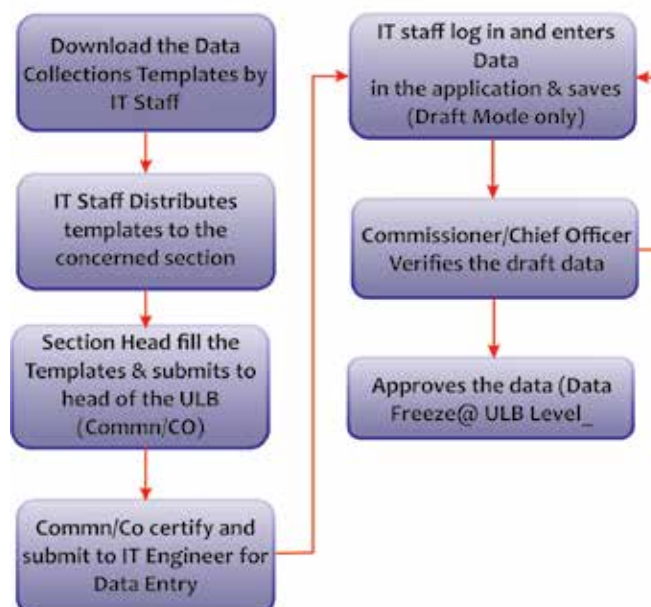
KEY DATES

16TH November 2009 – Application Live in all 213 Urban Local Bodies

MOBILIZATION OF RESOURCES

The entire process of rolling out of Municipal Applications of ULBs is handled by the IT professionals of Municipal Reforms Cell, duly appointed by the department, directly from the market. Municipal Reforms Cell hand holds the ULBs in implementation of computerization reforms and further maintenance of the same. The task of capacity building and training to Municipal staff is also vested with the Cell.

USER Convenience at ULB



PROCESS

Benchmarking is now well recognized as an important mechanism for introducing accountability in service delivery.

In context of urban local bodies, benchmarking can be defined as the process of determining how efficiently and effectively the concerned agencies are delivering the services and the effort of the agencies in improving the mobilization of own resources and to measure whether this resources are being utilized in an optimum manner or not. It also provides an assessment of the quality of work the local body is doing and how successful; it has been in satisfying community needs and expectations.

Under this project, six service sectors and one finance sector have been considered, which comprises 49 Performance Indicators. The sectors are;

Service-Oriented sector

1. Water Supply System.
2. Waste Water Management (sewerage and sanitation).
3. Solid Waste Management.

4. Roads, Road side Drains and Street lights.
5. Disease Control.
6. Developments of Parks and Gardens.

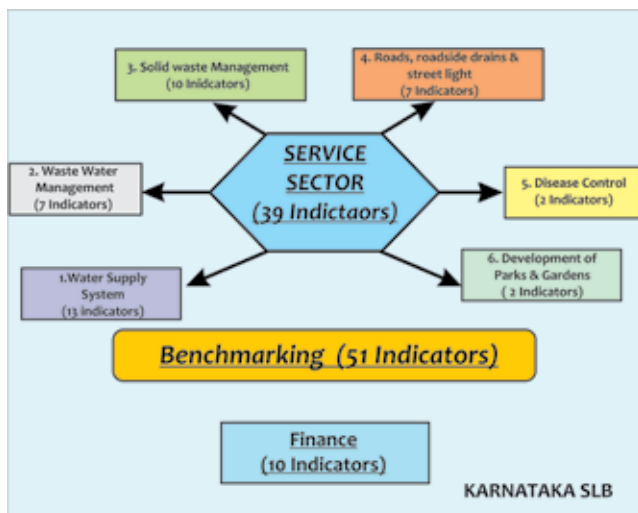
Finance Sector

7. Finances.

One of the major focus areas for the project right from the start was, to create a scalable platform that could be rolled out across the state, covering all 213 ULBs. Following are the key elements of the scalable design:

- a. Technical Architecture:
- b. Centralizing also allows standardization of formats and processes that automatically drive economies of scale

A Service Level Benchmarking Website www.karbenchmarking.gov.in has also been developed which acts as a gateway for accessing the application;



The System Process

RESULTS ACHIEVED

Tulana now provides the mechanisms by which the ULB knows if it is achieving its objectives as the online application transforms data into information useful in decision making.

From the perspective of Service Users:

- Measure performance
- Improve performance

From the government or any other socio-technical perspective:

- Improved information base
- Easy and defined monitoring
- Provide greater transparency
- Fund allocation
- Rationalize decision making
- Related policy decision
- Comparison of the ULBs
- Replication of Best Practices
- Prioritize the activity
- Streamline /flow of data
- Attract financial investment
- Retain/maintain quality of life
- Competing with other ULBs
- Performance improvement plans

From the perspective of citizens:

- This tool has enabled them to assess their own city in comparison with other cities.
- This tool also helps citizens to involve in the local body decision making, through this effective community participation could be assured.
- Planning to include the citizen role in the application for viewing the reports regarding the services through which each and every citizen is able to know the services and its level in ULB.

SUSTAINABILITY

The Karnataka Municipal Data Society (KMDS) was setup specifically to scale up to accommodate the training and support queries from the municipal bodies. In addition, this provided the framework in terms of training facilities, knowledge sharing which helped in reducing the time taken for the municipal bodies to adopt the reforms.

The Karnataka Municipal Data Society (KMDS) has been setup with a self-sustaining revenue generation mechanism, and has created a model structure that can be replicated across the country.

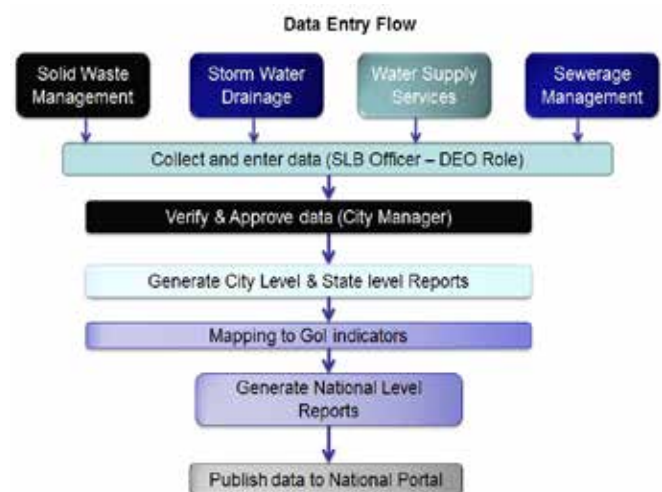
TRANSFERABILITY

The vision was to create a standardized set of systems and processes across the state

which would not only provide the benefit of knowledge sharing across the individual bodies, but also create a common platform on which, comparative evaluation between municipalities could be undertaken. Under this framework, some of the most innovative decisions taken on the e-governance front are given as under:

1. Creation of a centralized system, which was common in terms of process and data model across the state.
2. The centralized approach enabled the technology team to leverage the internet to develop an application that was accessed by the individual municipal bodies over the internet.
3. The applications are now hosted centrally at Municipal Data Center, which is an entity of the Directorate of Municipal Administration (DMA).

SLB Online Application



AASTHI (GPS based property tax information system)

BACKGROUND

AASTHI (GIS based property tax information system) is introduced for effective collection of property tax, to bring more transparency, accountability in the entire process of property tax collections. The reform aims to automate taxation process and to integrate with other functionalities of the ULB to keep the updated data and information of every property with unique standard across all ULBs of the state. It aims to do it through a GIS based Property Tax Information System which would improve the record keeping of properties, increase the tax compliance rates and also enable ULB officials to make informed decisions.

Before the initiative following issues were faced by the department:

- Low rate of filing the property tax returns
- High accumulation of arrears
- Negligible penalty for not filing the return.
- Improper assessment of property tax by ULB Officials which was causing huge revenue loss to the ULB
- Large number of properties were un-assessed and not brought under tax net
- Delay in preparing the list of defaulters
- No uniform procedure of taxation.
- Property records were maintained in manual DCB registers

Issues from the perspective of citizens/ service users :

- Delay in issuing property tax extract to citizens.
- Difficulty in preparation of Demand Collection Balance register.
- Difficulty in preparing & serving notices to defaulters.

Issues faced by the government

- Discrepancies in reported figures from ULBs
- Lack of timely information about property details from ULBs
- Inaccurate projections of Property Tax demand which was one of the main source of revenue of ULBs
- Monitoring Collection efficiency across 213 ULBs difficult
- Tampering of Manual records, misplacement of records.

KEY DATES

- Project initiation - March 2004

MOBILIZATION OF RESOURCES

Asian Development Bank funded "Nirmala Nagar Project" implemented in 47 ULBs and later from 2008 onwards in the remaining 164 ULBs under World Bank funded "Karnataka Municipal Reforms Project".

Cadre and Recruitment Rules for Urban Local Bodies (ULBs) have been amended and Senior/Junior Programmers posts have been created with minimum qualification of B.E (CS/IT)/MCA for Senior Programmers and B.Sc (IT)/BCA



for Junior Programmers. For the first time, IT Engineers posts in ULBs were filled up through competitive exams and they are rigorously trained on the development, implementation and further maintenance of the GIS based Aasthi application along with other municipal applications. Municipal commissioner/ Chief Officers, Engineers, Revenue Officers, Revenue Inspectors, and Bill collectors are also simultaneously trained on implementation and usage of the online application.

PROCESS

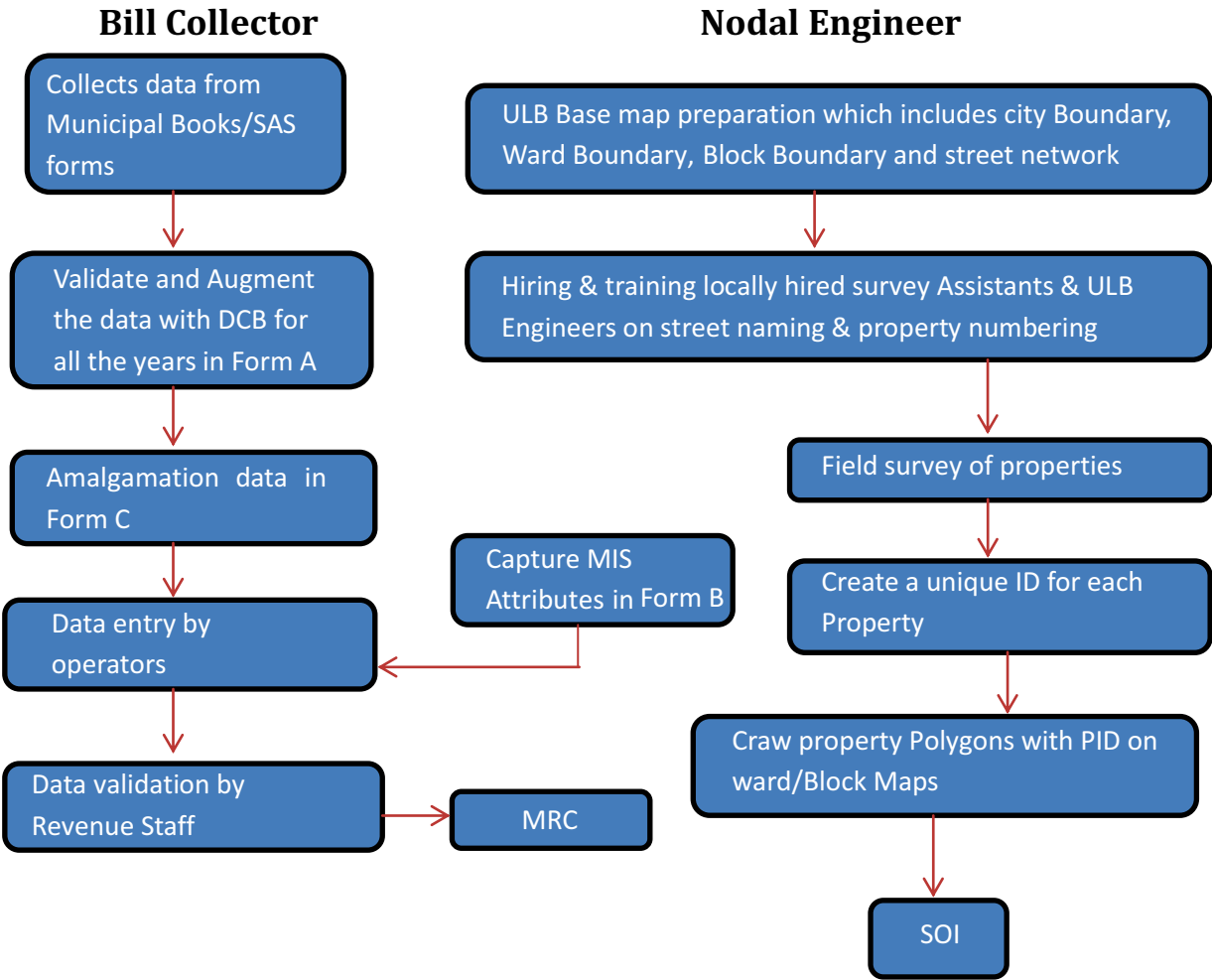
In the beginning of fiscal year 2002-03, the government of Karnataka implemented a set of far reaching reforms to its system for collection of property tax in urban areas. The method of assessing property value for the purposes of calculating property tax due was changed from one based on estimated rental value to one based on the total capital value of land plus buildings.

Responsibility for calculating property tax due was shifted from city officials to property owners themselves. A comprehensive survey of all taxable land of all municipalities (excluding Bangalore) was conducted. The new IT system for tracking and managing property tax collections was implemented in all municipalities across the state.

RESULTS ACHIEVED

- This system has brought transparency in the process of property tax collection.
- Property tax notices are generated automatically and the property tax details are shared with the owners of the property.
- The system has increased the responsibility and accountability on the part of Bill Collectors and Revenue Officials. With a click on the button, the Commissioner can find out the amount, his Bill Collector was supposed to collect, assess his performance

AASTHI PROPOSED WORKFLOW DIAGRAM



as to whether notices have been served by him and whether demand notices served by other revenue officials.

- This software helps to monitor and control the entire property tax collection system without depending on the information being provided by the lower staff manually.
- The system also has central database at the State Level.
- The performance of different ULBs is monitored by using the central database which brings a sense of fear and resultant responsibility in the minds of the Managers of ULBs.
- The system has simplified the collection of data enabling periodical of State Level review of property tax collection.

SUSTAINABILITY

This Project has been institutionalized. Hence they are system driven.

1. **Municipal Reforms Cell:** The various officers appointed in this office shall ensure effective implementation of E-Governance modules. They offer online/on site technical assistance to ULBs to sort out various implementation issues.
2. **State Level GIS Agency:** Survey of India has been appointed as a Technical Assistance & Support Agency (TASA) for implementation of GIS in all the ULBs.
3. **IT Engineers appointed to implement the project:** IT Engineers exclusively appointed for this project in the ULB, are assigned the task to implement and further maintain E-Governance modules in their respective ULBs and coordinate with ULB, Field Level staff and Municipal Reforms Cell for this purpose.
4. **District Urban Development Cells and Nodal Officers:** Project Directors and Nodal Officers positioned in the District Urban Development Cells attached to the respective DC offices handhold the ULBs in implementation and maintenance of e-Governance initiatives taken-up by the State Government.

5. GIS application envisages role based access and every Role/User is accountable for his/her actions.

TRANSFERABILITY

This initiative was the first of its kind in India where a state-wide model of reforms was implemented. Traditionally, municipal e-governance reform initiatives have been driven at the local level, which have made them difficult to replicate. The vision was to create a standardized set of systems and processes across the state which would not only provide the benefit of knowledge sharing across the individual bodies but also create a common platform on which comparative evaluation between municipalities could be undertaken. Under this framework, some of the most innovative decisions taken on the e-governance front were:

1. Creation of a centralized system which was common in terms of process and data model across the state.
2. The centralized approach enabled the technology team to leverage the internet to develop an application that was accessed by the individual municipal bodies over the internet.

The applications are now hosted centrally at an independent entity (Karnataka Municipal Data Society) which provides the applications to the individual municipal bodies for an annual subscription fee under the SaaS (Software as a Service) model. This is also a first time in the Indian government context.

LESSON LEARNT:

1. It was felt that different ULBs had followed different procedures in finalization of city boundaries, ward boundaries, identification of major roads, city maps etc. and thereby the whole process was not found to be uniform. As such, it was decided to use existing maps of the ULBs and hand sketches if any existing in the ULBs, the Town planning maps available with the Director, Town Planning and Satellite /Aerial imaginary

maps, available with SoI, at any given time and to amalgamate these maps and then to develop the comprehensive maps and then to digitize these maps by duly fixing the proper boundaries of the ULBs.

2. Despite several circulars from the DMA to verify the Form Cs filled by the hired engineers by fixing targets for Rev Officers, Revenue Inspectors, Bill Collectors, and Commissioners/ Chief Officers, the ULBs had not done this verification properly. This resulted in Survey Errors
3. One of the most important challenges faced in the implementation was the frequent change in the bureaucracy at the local level, especially of the Commissioner or the Chief Officer heading the local body.
4. Retaining a capable human resource pool was another challenge. IT skills are a new skill set that the government, both at the state and the local level has acquired as part of this programme. While essential to the implementation of the programme, retaining this resource pool poses a challenge and is essential to sustain this programme.
5. Training, building capacities and ensuring integration and cooperation of the existing bureaucratic staff in the programme is another challenge.



COMMISSIONER OF MUNICIPAL ADMINISTRATION, CHENNAI, TAMIL NADU

The Best Practice award in the category of “Housing, Urban Poverty and Infrastructure” was given to Commissioner of Municipal Administration, Chennai, Tamil Nadu in recognition of its initiative Housing for Urban Poor; Access to Civic Services, education & Health Facilities “Pro-poor activities through Micro Enterprise support, Skill Training and Community Mobilization”

Pro-poor activities through Micro Enterprise support, Skill Training and Community Mobilization

BACKGROUND

The implementation of housing scheme for the Urban Poor through agencies like Urban Local Bodies and Tamil Nadu Slum Clearance Board were attempted to provide 16000 dwelling units for the year 2013-14 out of the total target of 1, 30,000 planned through 145 projects in the state.

The State has committed to strengthen the serviceability of the urban local body in addition to providing shelter for the Poor. People's participation and Bottom up approach is felt as the priority to be established for the present generation.

Sustainable development is aimed through improvement in the financial ability of the urban local body to meet the increasing demand caused due to rapid urbanization. This was the first State to bring Beneficiary led house construction through in-Situ development.

MOBILIZATION OF RESOURCES

For the year 2013-14, the Government made allocation for universal coverage of urban poor towards livelihood and improvement in the environmental condition at an estimated cost of Rs. 114.77 Crores and Rs. 750 Crores for Inclusive

Housing to provide 6137 Dwelling units. The Central Government sanctioned additional fund of Rs.37.40 Crores as an incentive for the state based on the performance.

PROCESS

- The NHGs were given opportunity to participate in mela and interact directly with the training institutes to select the skills of their choice and interest.
- Awareness on the importance of participation in NHG meetings to avail benefits was given to the groups.
- The credit of subsidy directly to the account of the group was facilitated to avoid delay in the process of sanction.
- Marketing support extended by organizing exhibitions in districts periodically to promote sale of the products produced by the women groups.

Awareness Creation

Sensitization programs under UCDN conducted periodically to facilitate the urban youth to know about different pro-poor programs of all government departments and to help them in preparing micro plan utilizing the services of the community organizers and other stake holders.



NHG Group Activities under UCDN Component

Community Mobilization

- Three tier system of community based organization, as envisaged in the guidelines of SJSRY has been formed in all the Urban Local Bodies.
- A total of 780 CDS have been formed in all the ULBs and the same has been registered. The community based organization has 80956 NHGs and 9364 NHCs.
- The bottom-up approach of need assessment is in practice.
- The Town Urban Poverty Alleviation Cell formed in all the Urban Local Bodies will assist in availing benefit under the scheme every year.
- Exhibitions are conducted to facilitate sales outlet for the products produced by the Women groups.
- The CDS is given the responsibility to mobilize the community and avail benefits to the needy poor on priority basis through participatory technique.

RESULTS ACHIEVED

Housing:

- This was the first State to bring Beneficiary-led house construction through In-Situ development.
- All the Urban Local Bodies have earmarked a minimum of 25% of the municipal financial resources towards the basic services to urban poor fund in the Municipal Budget.

CITY	Total Municipal Budget (Rs. crore) up to 2013-14	Budget Earmarked (Rs. crore) for urban poor up to 2013-14	Actual Expenditure (Rs. crore) on urban poor up to 2013-14
CHENNAI	10818.85	3475.62	3252.49
MADURAI	1494.21	422.26	402.32
COIMBATORE	1573.33	435.36	419.88

- The State has borne additional share due to escalation of cost to the tune of Rs.650 Crores to successfully execute the project

and support shelter for more than 6.5 Lakhs, which otherwise will only be the life time dream for urban poor.

- Proactive measures were taken to release the funds in advance to the implementing agencies before release of central funds to speed up the implementation which has largely saved additional cost escalation and reduced the burden of the beneficiaries.



Poverty Alleviation

- The state has 86504 active NHG groups and is effectively functioning through support of individual & group Micro enterprises and Skill development training over the last 15 years. Several groups are making sizeable income generation.
- In the current Year, 37402 beneficiaries were trained, 14004 were placed in jobs. Presently, 10455 beneficiaries are undergoing training. 10857 individuals are assisted with self-employment ventures. The financial utilization towards the above is Rs.84.28 Crores with the subsidy of Rs. 21.07 Crores.

Ownership by the Women Group

- In addition to the joint venture through micro enterprise, the Women groups were involved in the maintenance of Community Toilet for income generation. At least 100 families will have access for usage and an amount of Rs.100 per family or on usage basis is charged from the user.
- The accounts of income & expenditure are maintained by the user group. Income generating activities on products related to toiletries will be encouraged to the groups for their livelihood. Further, in possible areas, advertisement revenues will also flow in to these groups.
- 721 Community toilets in state have been entrusted for maintenance to the self-help group and 5629 women are benefitted.

Urban Wage Employment Programme (UWEP)

Under the component of Urban Wage Employment Programme (UWEP), 5.03 man days'work have been generated at a cost of Rs.8.47 Crores.

Urban Community Development Network (UCDN)

- So far 80,956 NHGs, 9364 NHCs and 780 CDSs have been formed and functioning effectively. Capacity building, training and awareness creation has been imparted at a cost of Rs.6.54 Crores.
- Under this component, the Community Organizers are assigned to guide the CDS in the preparation of Micro plan, Mini plan and Consolidated Town plan.
- They help the community in preparing proposals for the self-employment and group enterprise ventures to the implementing banks.
- They also facilitate in creating awareness to the urban poor in terms of various pro-poor assistance available through various department of the state and the center in uplifting their livelihood, Health, Education, Clean Environment and Child care.

SUSTAINABILITY & SCOPE FOR REPLICATION

- Employment through Skills, Training and Placement is arranged
- Partnerships for empowerment of the poor including NGOs & CSR
- Creation of Youth Empowerment & Service (YES) Centre is proposed
- Universal Financial Inclusion and Revolving Fund Support
- Market linkages for service and manufacturing sectors
- Shelters for homeless, destitute, street children, migrants other vulnerable groups.
- The State has launched Tamilnadu Urban Livelihood Mission(TNULM) and a separate budget of Rs 200 Crores has been earmarked for the year 2013-14.
- Provide infrastructure support for construction of community and school toilets and carry out awareness and training activities



Community Based Activities

LESSONS LEARNED:

- The Community based organization structured on a three tier basis has helped in mobilizing the community towards the development of their living standards, utilizing the support of all poverty alleviation schemes.
- Organizing periodical Melas at the Regions and Corporations has facilitated the urban youth to have direct interaction with the training partner, sponsoring Institution (Government) and NGOs before opting for the right choice of skill training.
- The Result of the above effort has prompted the State Level Nodal Agency to claim additional funds for the scheme over and

above the allocation for a consecutive period of two years for the State from the Ministry.

TRANSFERABILITY:

- The beneficiaries are assisted with subsidized cement through government cooperatives to make their construction of dwelling unit cost effective.
- Biometric technology aids in collecting objective and authentic information.
- Community participation is ensured by involving the beneficiary to construct their own housing unit as against the traditional procedure of engaging the construction of dwelling units to the contractors/NGOs/ department etc.



INDIAN INSTITUTE OF TECHNOLOGY, GANDHINAGAR, GUJARAT

The Best Practice award in the category of “Housing, Urban Poverty and Infrastructure” was given to Indian Institute of Technology, Gandhinagar, Gujarat in recognition of its Service for Urban Poor initiative “Construction worker welfare programmes at IIT, Gandhi Nagar”

Construction Worker Welfare programmes at IIT, Gandhi Nagar

BACKGROUND

Started in 2011, Nyasa primarily aims to support and educate the children of migrant construction workers in and around the campus neighborhoods. Our collective strength in education as an educational institution was used as a platform to bring the children from dusty environs to an open air school within the IITGN temporary campus in Chandkheda. This provided the children quality time through education and entertainment while their parents were hard at work. Buoyed by the support of students and IITGN, Nyasa has implemented the same model at the Institute’s permanent campus, which is presently under construction. Two Nyasa schools at our permanent campus in Palaj cater to the needs of nearly 200 children of construction workers.

Nyasa’s second mission is to cater to the housing needs of the migrant construction workers. The innovative design of housing and academic buildings at IITGN’s Palaj Campus requires a dedicated workforce. IIT Gandhinagar is committed to providing decent housing for migrant construction laborers during the duration of their work. The construction site provides respectable and sanitary housing for the families of construction workers and a safe environment for their children to play and learn. The VGEC campus, where IIT Gandhinagar temporary campus is located, was a place of bustling construction activities. Migrant construction laborers had no place to live or to leave their children while they were at work. Construction workers in India traditionally toil in some of the most miserable housing conditions.

KEY DATES

January 26, 2011	Marked start of Nyasa. A community lunch was organized for 400 construction workers and their families to create awareness about the welfare of construction workers.
January 26, 2014	The children of ‘Nyasa’ school gave a stage performance at Republic Day Celebration Function at IIT Gandhinagar.
Unspecified dates	Periodic Health Check Camp for construction workers; (Annual) winter clothes distribution; book distribution; kite flying; Republic Day celebrations; Independence Day celebrations; community lunch; fun and frolic with IITGN students etc.,
March 2013	Construction Planning Completed and Workers Housing Scheme Finalized
August 2013	Start of Construction with implementation of Construction Housing Scheme for Workers

MOBILIZATION OF RESOURCES

Community engagement is one of the core missions of IITGN and IITGN staff, students and faculties have all contributed their time, skills and financial resources to support Nyasa activities. Currently Nyasa has 55 active volunteers and steadfast support from the IITGN governing body. Nyasa receives donations of money, goods from well-wishers, alumni, friends and family of staff and students. The



Institute also undertook special initiatives for construction worker welfare through policy decisions and construction rules it developed for its new campus. Provision of satisfactory housing for construction workers was made an explicit condition of the contracts issued by the Institute and this is implemented as a required best practice for all construction.

PROCESS

Workers' Housing

The bidder shall construct clean, hygienic and well ventilated workers' housing, with adequate water supply, electrical and sanitation facilities. This housing shall be constructed on location decided by Engineer in charge. Use of piece of land for housing shall be allowed by IITGN free of cost for the duration of this work. Housing for $150 \pm 10\%$ workers shall be constructed within One Month of Date of start, failing which a recovery will be made at the rate of Rs.10,000/- (Ten Thousand) per day till the workers' housing is made available as per above number at site up to the satisfaction of Engineer-in-Charge. The additional number of houses required to be constructed would be decided by the Engineer-in-charge based on his assessment of the



requirement of labor. All workers housing shall be constructed within three months of Date of start, failing which additional recovery will be made at Rs.10,000/- (Ten Thousand) per day, till the workers' housing is made available at site up to the satisfaction of Engineer-in-Charge.

NO PAYMENT SHALL BE MADE FOR CONSTRUCTION OF LABOUR HOUSING

Along with the housing, IITGN encouraged practice of best safety measures for the on-site construction workers. Elaborate safety measures were undertaken and a two-day fresher training (16 hours) was provided to all construction workers. A comprehensive group insurance cover of Rs 50,000 to Rs 100,000 was



established for the workers and their supervisory staff. Apart from these, regular health camps are organized to monitor their physical health and cultural gatherings are periodically held to take care of their mental well-being.

COMPREHENSIVE GROUP INSURANCE

The contractor including subcontractors shall provide comprehensive group insurance cover for all the workers and their supervisory staff deployed at site. The amount of insurance cover shall be Rs 50,000 and Rs 1, 00,000 for workers and supervisory staff respectively. The details

of insurance cover to be provided shall be submitted by the contractor / associate agencies within 20 days of date of start. In case of a default, appropriate policy shall be done by the Safety Monitoring Committee and double the fee of the policy shall be recovered from the next bill of the contractor.

RESULTS ACHIEVED

Basic housing, drinking water, sanitation etc. are provided to construction workers, which sets an example for future construction activities



Good Quality roofed housing near construction site



No child left behind, a small effort to keep children occupied



Community lunches work used as a platform to create performance





Accessible clean drinking water and sanitation

- Free education is provided to children of construction workers, who typically have never been to schools.
- Mid-Day meal and nutritious snacks are provided and regular health camps are being conducted to ensure their physical health and wellbeing.
- After attending Nyasa School, at least six students were helped to enroll in regular government schools. IITGN community also assures financial help to bright students who want to pursue education.

TRANSFERABILITY

As a community effort, IIT Gandhinagar has plans to develop,

- (a) An 'opportunity school' to the children of the migrant workers and children from nearby villages.
- (b) Streamline methodology to enable support of the kids who wish to venture to other educational institutes or skill based education.
- (c) Continue supporting the housing of construction workers as long as the construction persists.



BHOPAL MUNICIPAL CORPORATION

The award for Best Practice in the category of “Urban Transport” was given to Bhopal Municipal Corporation in recognition of its Service for Urban Transport Planning “Integration of City Bus Operation with Bus Rapid Transit System of Bhopal” under Urban Transport

Integration of City Bus Operation with Bus Rapid Transit System of Bhopal under Urban Transport

BACKGROUND

Bhopal Municipal Corporation started the city bus operations successfully on Net-Cost Basis Contract through a private operator on 2nd Nov., 2010. The BRTS Bus operation on the BRT corridor has successfully commenced from 27th Sept, 2013 as “MY Bus” on Net-Cost Basis Contract through a private operator who is obliged to pay 38% of the cost of buses deployed for respective cluster upfront fee.

Presently 185 nos. of 900 mm floor ht. Buses & 20 no. of AC 400 mm floor height buses are plying on the different 12 approved routes of Bhopal city including BRTS route with an average ridership of 1.25 Lakhs passenger per day. Bhopal City Link Limited has contributed in fulfilling the public transport needs to a large extent of a city where in the past four decades, the population of the city has increased four times whereas the vehicles population has increased 87 times and the road length has increased by only five times.

Before the initiative:

- Lack of integration between land use and transport.

- Concentration of activities in core areas of city.
- Lack of effective utilization of road system.
- Lack of scientific design of roads.
- Lack of network to address various components of mixed traffic.

KEY DATES

25 July 2006	Bhopal City Link limited form as an SPV of Bhopal Municipal Corporation
10 Nov 2006	BRT Pilot corridor of 21.795 km length costing 237.36 Cr was mentioned
1 Nov 2010	JNNURM funded city bus operations started
16 September 2013	Revised cost for BRTS corridor sanctioned for Rs. 357.20 cr
27 September 2013	BRTS bus operation on the BRT corridor has started successfully as “My Bus”



MOBILIZATION OF RESOURCES

Contribution of Center/State/ULB Government:

Initially Bhopal BRTS project was sanctioned in 2006 under JnNURM for Rs 237.76 Crores. The project cost under JnNURM is shared by the Center Government (50%), State Government (20%), ULB (30%). HUDCO sanctioned the loan of Rs 71.328 Crores for BMC for its 30% Share.



PPP MODEL - BUS OPERATION IS BASED ON NET COST CONTRACT:

Bhopal City Link Limited operates its buses on a very innovative public private partnership model where a predefined revenue sharing mechanism creates a win-win situation for all the stakeholders viz-a-viz company, operators, technology provider vendors and people at large. Operator is required to pay security deposit of 38% of the cost of buses deployed for respective cluster and gives an average premium of Rs. 4000 per bus Per Month. Company in turn provides the basic support infrastructure and facilitates for the operations by creating infrastructure like depots, bus shelters, operational control mechanism etc. vendors have been deployed by the company to issue common passes and automatic fare collection. Operator is also responsible to Operate & Maintain the entire Fleet & Assets under the project and pay Route authorization fees per bus per month.

RESULTS ACHIEVED

Presently approx. 35,000-40,000 passengers per day are travelling in the My Bus in the BRT corridor and 1.25 lakhs per day are travelling in all the routes of city bus services provided by BCLL. All the routes of the city have been designed in such a way that they cross at major intersections or overlap the BRT corridor on the major roads thereby integrating the City Bus Operations with Bus rapid Transit System of Bhopal. Citizen of Bhopal are very happy to have a safe, comfortable and fast public transport. My Bus has got a huge response from public. My Bus is depicting a new success story in urban transport of Bhopal.

SUSTAINABILITY

Financial Sustainability: Ability to recover cost of operations from fares depends on a number of factors such as availability of competing modes of transportation, quality and coverage of the network, population density, presence of feeder network and last mile coverage. Fare-box revenue is likely to be the major source of income for city bus project and it is critical to set fares at a suitable level to ensure recovery of costs. BCLL has ensured the financial sustainability of its operations by generating major share of revenue by alternative sources like advertising.



Advertisement revenue: The rolling stock is an excellent medium for advertising. In addition, stations, en-route stops and the corridor also provide ample space for advertisements. These rights may be sold on the basis of a fixed fee or even on revenue sharing basis. The inherent risk under both methods is quite different. In a booming economy the up-side potential from revenue sharing may be quite high while rates may drop-off precipitously during a downturn. These rights may also be renewed periodically so that the best option may be chosen depending upon the scenario and competition for the space.



TRANSFERABILITY

Implementation of bus based public transport system in tier two city on net cost basis with a very innovative revenue sharing mechanism on PPP model as implemented in Bhopal has been recognized by state government as well as government of India. Bhopal project was awarded as one of the best PPP initiative in India during last UMI awards. Government of Madhya Pradesh has decided to implement similar bus systems in smaller cities and towns to ensure

seamless connectivity by incorporating SPVs on Bhopal model. Bhopal project was also shortlisted for Sustainable Urban transport award at Washington DC. Case was presented in a conference organized by World Bank and World research institute. Various national and international institutes are now collaborating with BCLL to get associated and disseminate the knowledge. Currently we have MOU with EMBARQ, World Bank, Asia BRT forum and Institute of Urban Transport.



HARYANA POLICE HOUSING CORPORATION

The award for Best Practice award in the category of “Environment Management, Energy Conservation and Green Building” was given to Haryana Police Housing Corporation Ltd in recognition of its Service in “Green Building”

Green Building

BACKGROUND

The Haryana Govt. through Haryana Renewable Energy Department Authority (HAREDA) is propagating the message of usage of Renewable resources and conservation / efficient usage of resources. It was envisaged to get the highest Green rating of “Five Star” under GRIHA. Accordingly after the competition among the various designers the building design and features were finalized. It has a basement and three floors with a total plinth area of about 55000 sq.ft. The construction cost in Rs. 1200 lakhs including solar panels installed on its roof. The building has a unique way of rain water harvesting by which the rain water from the building area is stored in the underground water tanks (509 cum) in central courtyard of the building. The Grey water from washbasin/ bathrooms is re-used after filtration for landscaping using drip irrigation system. The grass pavers too helped in soaking the rain water and percolating it to the ground. The cavity was filled with XPS foam, passive downdraft evaporative cooling system, solar passive design of the building, fly ash brick walls, autoclaved aerated concrete blocks, water saving faucets, 42.5 KW integrated solar photovoltaic system, heat resistant roof insulation tiles etc. are features which amply achieved the objective of demonstrating the Green building elements and got it rated from independent agency GRIHA with highest ranking of “Five Star”.

The Haryana Renewable Energy Development Authority (HAREDA) a nodal agency of Haryana Govt. intended to spread the message of Green buildings especially water conservation in a sustainable manner. The HAREDA was having a land of 1 acre at Plot no. 1, Sector-17, Panchkula

for constructing their H.O building and they chose to construct upon a building on this for demonstrating various Green technologies.



KEY DATES

13.02.08	Rough cost estimate submitted to HAREDA for 771.47 Lakhs.
25.04.08	Date of Start.
09.06.11	Revised R/C/E submitted to HAREDA for 1036.39 Lakhs.
22.12.12	Date of Completion.
16.01.14	“Five Star” GRIHA rating (Provisional) awarded.

MOBILIZATION OF RESOURCES

All the financial resources were arranged by HAREDA from the Govt. Their Director Smt. Sumita Misra, IAS made the efforts to get the funds. The architectural/Structural details were provided by the Consulting architect M/s Elements. The execution of the project, framing of tenders, etc. was done by Haryana Police Housing Corporation. The structural drawings were provided by M/s Sanjay Prakash and Associates, R1/301, HauzKhas Enclave, New

Delhi-16. The water treatment system, VRV system, Fire Fighting system details etc. were provided by consultants McD BERL Pvt. Ltd., L-16 , 3rd Cross, 26th main road , 1st phase., JP Nagar, Bangalore

PROCESS

To get the project implemented the architectural and structural drawings were issued by the consulting architect M/s Elements. The Haryana Police Housing Corporation Ltd., supervised the execution of the project. The HAREDA facilitated the meetings between HPHC and M/S Elements. The meetings were regularly held on weekly basis at site. The problem in drawings, specification etc.were discussed and tried to be sorted out. The structural and water treatment /VRV/Firefighting System consultants were based at Delhi and Bangalore respectively and so their lesser visits to site was a problem. This affected the progress of work too. However the requisite information was extracted in due course of time and project implemented.

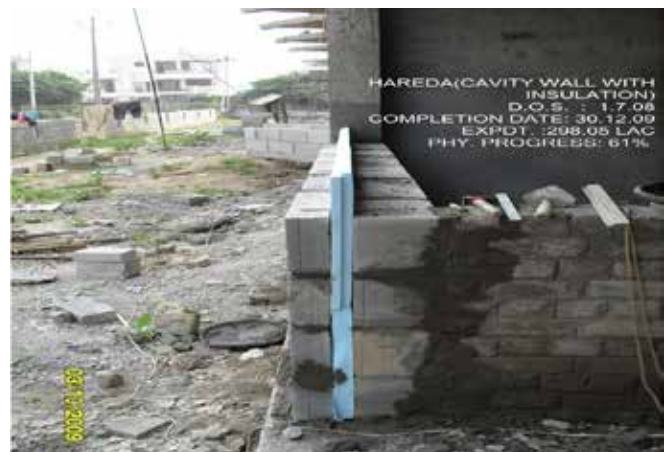
RESULTS ACHIEVED

Orientation: The south side is glazed to have winter Sun. The ACP louvers are meant to have more of direct sun in winter as compared to summers in courtyard. The tapered windows on East & West sides avoid Sun rays in summer months.

BUILDING ELEMENTS

- i) Cavity walls on East & West filled with XPS foam (50mm thick having density of 32 Kg/cum, Rs. 740/- sqmt)

- ii) Insulated Glass unit (6mm outer Toughened glass + 12mm Air gap + 6mm) for all structural glazing and external windows (U value = 1.8, 49% VT). For interior windows 6mm Sunenergy clear (U value 4.1 & 68% VT).
- iii) UPVC windows all-around of M/s Fenesta.
- iv) AAC Blocks (Autoclaved aerated concrete) used on East and West side of Building as well as in entire Boundary wall (Rs. 4057.00/cum).
- v) Flyash Bricks used in the Building (Rs. 3275/cum).
- vi) Curing compound used for saving water (Curefree from M/s CICO, 35.00/ sqmt)
- vii) Low VOC paints used.
- viii) Heat resistant Roof insulation tiles over insuplast (Exfoliated Vermiculite) (Rs. 870/ sqmt)
- ix) Bamboo Flooring
- x) Solar Control Clear Polycarbonate Sheet 10 mm thick (M/s SABIC Innovative Plastics)
- xi) Water Saving Faucets having flow controller Sink Cock (6 LPM), Single lever sink mixer (6 LPM), Pillar Cock 2.5 LPM, Shower (6 LPM) (M/s Jaquar).
- xii) Recirculation of Hot water form Solar water heater.
- xiii) Water Proofing Using Crystalline Process.
- xiv) Ricron 35.6mmfibre from M/s Reliance in external plaster.
- xv) Stainless Steel railing in 304 Grade.
- xvi) Sensor Entrance door.





Recycled cellulose fiber sheets used



Solar Passive Design (DUTS)



Misting system for natural cooling



Photo voltaic cell panels (capacity - 180 KWH per day)



Grass pavers



Louvres over open court yard to cut summer sun

Rain Water Harvesting: During Rainy Season the Rain water will be stored, filtered and used for all purposes including drinking. The Rain Water is treated using pressure sand filter, activated carbon filter, chlorination etc. Grass pavers have been provided in the Campus and the 100% surface runoff will be harvested through pits in campus drain.

Grey Water for Landscaping: Using Drip Irrigation the 100% Grey Water is also treated

using aeration, pressure sand filter, activated carbon filter etc. and used for Landscaping.

Solar Passive Design: Solar Ducts for natural flow of Hot Air, from Basement upto Terrace.

Fire Detection and Fighting System: Addressable System for detection with Automatic Fire Fighting Pumps (Electric, Diesel, Jockey & Boosting System)

Misting System: Cooling through flash evaporation of 14 micron water particles saves lot of energy. 3 pumps of 10 LPM capacity (M/s Coolline, USA) Nozzles of 0.008" orifice with Antidrip system includes ultraviolet filters & 1 micron filter.

VRV System

Solar Photovoltaic Cells: for Generating Electricity from Sun. Excess Electricity will be stored in the Battery Bank.

SUSTAINABILITY

Financial: The resources, energy etc. saved will lead to recovery of cost with the passage of time.

Social and Economic: The Green design of building will lead to harmonious atmosphere and saving in building construction cost too in totality.

Cultural: The natural way of cooling using PDEC system thus revives the old cultural practice of ancient India. The building design will promote new methodology of construction. The people residing in the building too feel more connected with the building as the building features associate more with the nature.

Environmental: The overall non-polluting properties of green elements will help in reducing environmental deterioration.

TRANSFERABILITY

The Confidence gained by using green products in demonstrative project of HAREDA has resulted in the usage of various elements in other projects. The items being used are Cavity walls, AAC Blocks, UPVC windows, Low VOC Paints, Heat resistant proof insulation tiles, Solar water heating system, Sensor Doors, Rain water harvesting, VRV system etc.



URBAN ADMINISTRATION AND DEVELOPMENT DEPARTMENT, GOVERNMENT OF MADHYA PRADESH

The Best Practice award in the category of "Environment Management, Energy Conservation and Green Building and sanitation" was given to Urban Administration and Development Department, Govt. of MP in recognition of its Service in Rain Water Harvesting and Integrated Urban Sanitation programme (IUSP) in (1) Rain Water Harvesting in Gautampura (2) Low Cost Sanitation Solutions

Rain Water Harvesting in Gautampura

BACKGROUND

Five years back, similar to other municipalities of Madhya Pradesh, Gautampura Nagar Parishad (GNP) was facing acute shortage of water due to scanty rainfall and low yield of ground water. The newly elected council came into existence in the year 2004. Council with youth leadership analyzed the overall situation of water supply in the town.

Nagar Parishad organized meetings with the senior citizens of the town and analysed the reasons behind shortage of water and also discussed on possible solutions. The traditional approach of water conservation and local technologies were pooled together. Water flowing in the nearby non perennial river "Chambal" was retained and transferred to a nearby artificial lake. In order to collect the water percolating from the lake, 2 dug-wells were created. As a result water gets filtered naturally and gets collected in the dug-wells, from where municipality supplies water to the entire town. In the entire process most important aspects were use of local technology, traditional approach and community participation.

In the absence of reliable water source, Nagar Parishad Gautampura was facing severe water problems. However, river 'Chambal' passes 2.5 kilometers from the town, but it is not a perennial source and also gets diminished in this part of region. Gautampura Nagar Parishad was constituted in the year 1980-81, and initially tube wells were installed to supply water to the citizens. Gradually, water level went on decreasing and the municipality kept on boring deeper tube-wells.

Disputes over getting water from the tankers became a common practice and masses were badly irritated and tormented due to this mismanagement. After some years when the problem became uncontrolled, people came on the streets and started road block agitations/hunger strike etc. This resulted in mismanagement and helplessness in the ULB.

KEY DATES

Jan 2009	Stakeholder consultation-
April 2009	Inception of the project -
2010	Project completion
2011-12	Results achieved

MOBILIZATION OF RESOURCES

The financial arrangements done by the Nagar Parishad mainly included steps for cost restriction as mentioned below:

1. Restriction on water transportation expenditure
2. Use of locally available material like stones (Chambal river stones) etc. for construction of lakes and wells. Neem trees were planted

Naiduniya Year 2000



Dainik Bhaskar Year 2000

to safeguard the constructed wall from river backwater.

3. Lake creation: 50% funds from public and 50% from the ULB
4. Water Supply: User charges

PROCESS

Holding the river water: Two and a half kilometers away from the town, a culvert (on river Chambal) was converted into stop dam-type structure to hold the flow of rain water. It basically involved installation of lids on the pipes existing below culvert. These lids were circular in shape, detachable and designed locally. The basic objective of using lids was to hold water after the month of August when water level in the river starts reducing.

Creation of Dug-wells: The water quality was not satisfactory for drinking purpose. At the same time ULB was facing revenue crises and construction of water treatment plant was practically impossible. Hence, it was decided to create two dug wells, so that the percolated water from lake could be stored again and water can be filtered through natural process. A 10 meter diameter and 15 meter deep well was constructed at a distance of 50 feet from the lake. Surprisingly, water erupted in the well at only 60 feet. Following its success one more well of same capacity was created.

Creation of lake in such a manner was considered infeasible and impractical by the

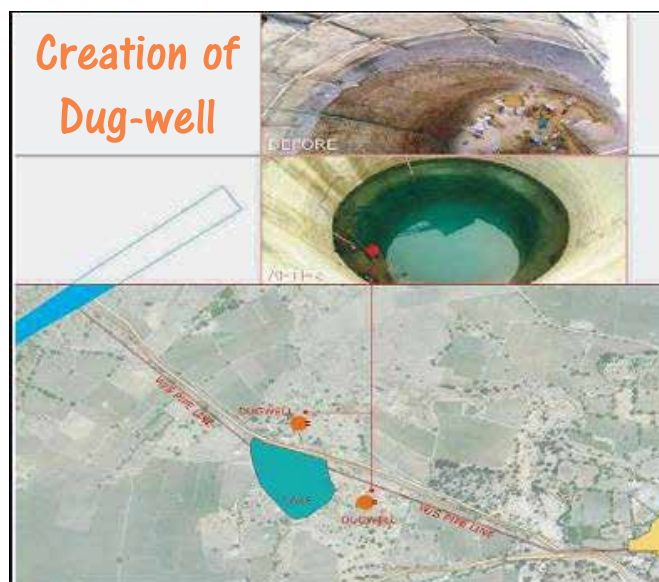
engineers of PHED and irrigation dept. They were of the opinion that backwater of Chambal river might damage this lake. The boundary of lake was strengthened by using stones of the Chambal river. In order to strengthen the soil Neem plantation was done in near-by area so that the back water of Chambal river could not damage the pond. At the same time, the construction of wells and getting the water through the same was thought to be imaginary, but council showed full faith in traditional knowledge and experience of the senior citizens of the town. It was decided to continue the construction work.

Different departments estimated the cost of construction of the pond and the well between 25 and 30 lakhs, but Nagar Parishad got the construction work completed at the cost of Rs. 13 lakhs only.

The next hurdle was non-availability of electricity. For this, M.P.E.B.(Madhya Pradesh Electricity board) gave an estimate of Rs 3.7 Lakh for laying electric lines from the power house to the newly created well in Kharacha region. Due to shortage of funds, this idea was dropped and Nagar Parishad used local labour and poles and electric wires which earlier were considered as scrap by MPEB. It costed only Rs 65000 to Nagar Parishad. Various parts of the town were connected with pipelines and water was made available.

RESULTS ACHIEVED

The success of this effort rested on the belief of the traditional knowledge and experience of the elderly people. After the implementation of works, when it rained, all the structures constructed by Nagar Parishad to collect water became full with water. Within a short span of time a great rise in groundwater level was recorded. Water streams got erupted recorded. Water streams got erupted in the newly built wells near the tank in 'Kharcha' region. This was a clear indication of rise in ground water level due to recharging of water bodies. After sufficient quantity of water was arranged, Nagar Parishad laid 2 kilometer long pipe-line from dug-wells and started supplying water to the town. This way the problem of drinking water was solved.





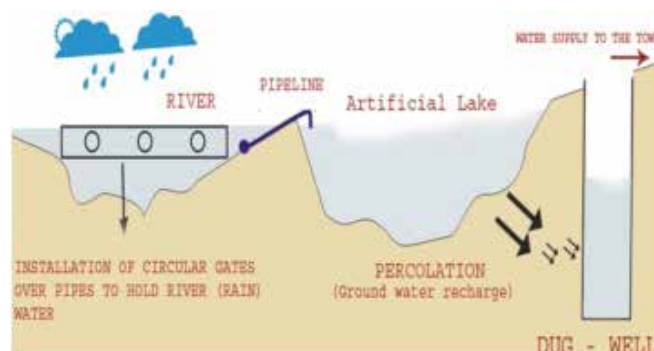
Gautampura Nagar Parishad is supplying water to its citizens @ 90 lPCD

Naturally filtered water is being supplied. Gautampura is the only Nagar Parishad in whole district which has got a sustainable water supply mechanism. There is no more agitation amongst the citizens of Gautampura Nagar Parishad which was considered to be harshly affected by water scarcity has now become self-sufficient with respect to drinking water supply. The present supply of water is equal to the UDPFI prescribed norms and the water level is tremendously high.

SUSTAINABILITY

All the water resources like stop-dam, lakes, wells etc. constructed by the Nagar Parishad can remain useful till infinite years.

Transportation of water and boring tube wells are temporary arrangements only. Boring tube-wells and transporting water can neither



solve the problem permanently nor be useful for a developing country like India. It will only reduce the ground water level. The only option left is conserving water by constructing lakes, ponds etc. Permanent solution for water supply problem is conservation of water.

Gautampura Nagar Parishad followed the concept of revitalizing water bodies which has proved to be sustainable since ages. All the water resources like stop-dam, lakes, wells etc. constructed by the Nagar Panchayat can remain useful till infinite years. With the growth of population water demand would increase hence the Nagar Parishad has started capacity enhancement measures of water bodies.

TRANSFERABILITY

The success of this 'Novel Experiment' of conserving water by Gautampura Nagar Parishad has become exemplary. Such experiments are being thought to be done by other towns also. This model of Gautampura has been appreciated



Creation of Artificial Lake

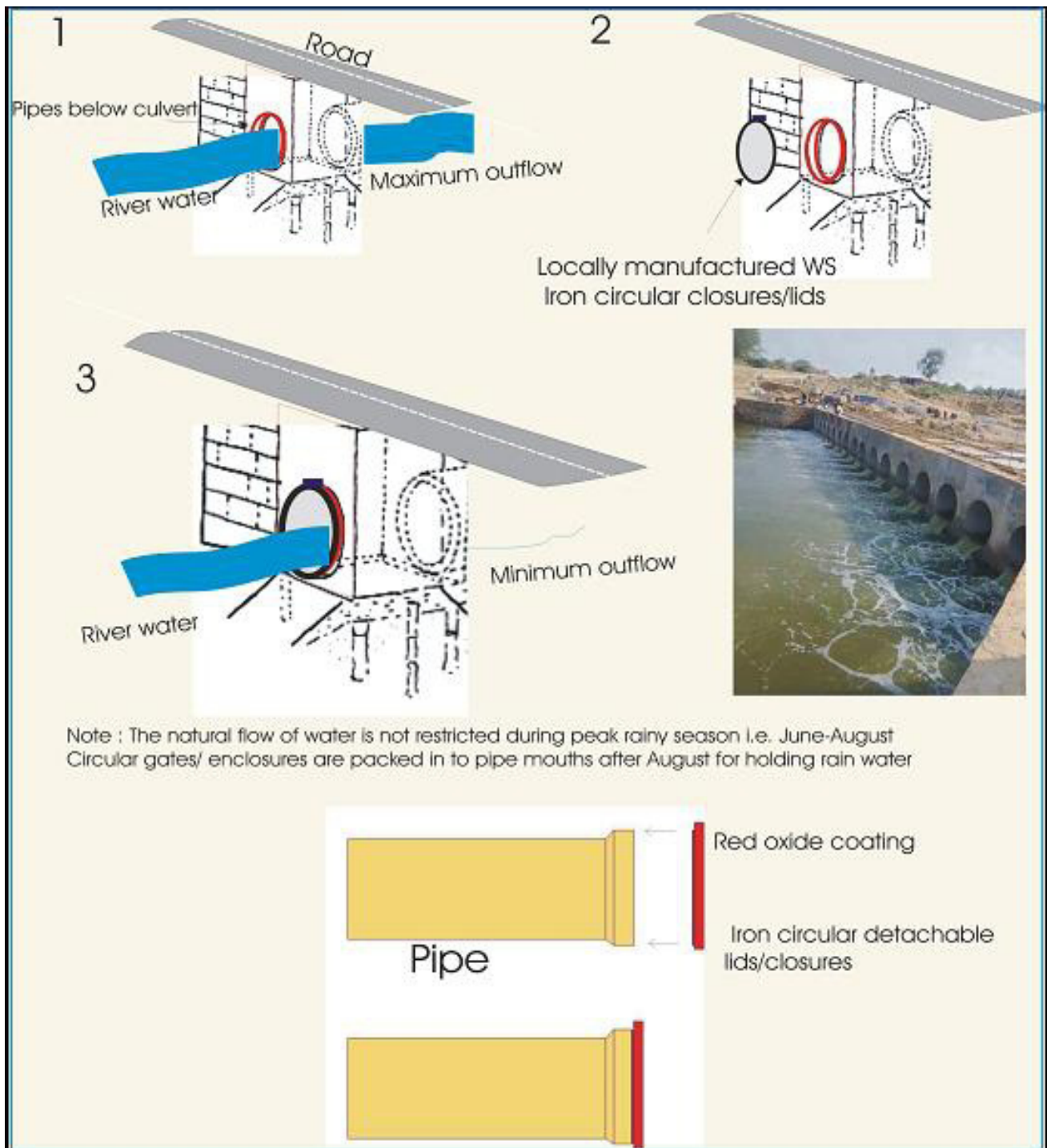


by the Principal Secretary, Urban Administration and Development Department and a letter has been issued to all the ULBs of Madhya Pradesh to adopt the same model.

In the eastern region Runji, of Gautampura, people got inspired by Nagar Parishad's initiative

and constructed a pond through community participation.

In another nagar parishad of Madhya Pradesh, Diken, dugwells have been created at a potential site and similar water conservation measures have been adopted.



Low Cost Sanitation Solutions

BACKGROUND

The State Government and the Urban Local Bodies (ULBs) have been implementing various programmes to resolve the problem of urban sanitation, but in the absence of uniform policy guidelines, lack of a progress monitoring mechanism, the efforts have not been very encouraging. To tackle these challenges, the state initiated the Integrated Urban Sanitation Programme (IUSP) in consonance with the Government of India's National Urban Sanitation Policy-2008.

The programme is designed to be demand driven and led by the community. The programme targets to cover all the ULBs in the state (in phased manner) over a period of five years, targets for the next two years have been fixed. During the year 2011-12, the state has successfully constructed 178 community toilets in 52 ULBs and 14281 toilets in 13 cities. If demand assessment is considered, 4 cities have attained status of open-defecation free. The IUSP is being implemented through the convergence with Government of India's ILCS scheme and PPP mode (Sulabh Model) has been adopted for community toilets.

To assess the overall situation of sanitation in the urban areas of State and in order to understand the perception of persons deprived of proper sanitation facilities, a state level sanitation survey was conducted (available at http://www.mpurban.gov.in/report/Frm_login.aspx) A survey of 3.54 lakh families was conducted in the year 2008-09, which revealed that almost 25% households in the urban areas do not have safe sanitation facility. Out of these, 16000 families were found to be practicing open defecation.

KEY DATES

13 Feb 2009	Integrated Urban Sanitation Program Launched -
28 August 2012	The pilot scheme converted to District Head scheme -

3 Sept 2013	IUSP's enhancement to Mukhyamantri Shahari Swachhata Mission
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MOBILIZATION OF RESOURCES

1. Financial support to cater immediate requirements - Based upon demand raised :

A. Construction of Community toilet, each unit cost Rs.15.00 lakhs

- State grant 13.50 lakhs and ULB contribution 1.50 lakhs

B. Construction of Individual toilet, each unit cost Rs.10000 (Convergence with ILCS)

- Government of India grant 75%, State grant 15% and Beneficiary contribution 10% (ULB will borne the escalated cost)

2. Comprehensive plans for sanitation which would be implemented through CM sanitation mission.

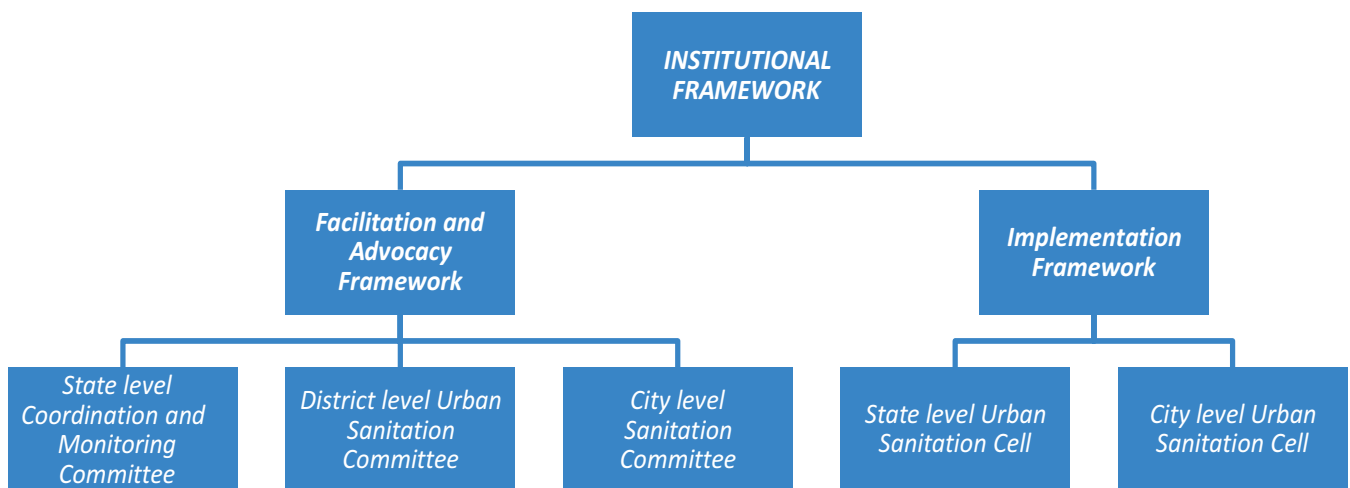
Financial Model for Community Toilet

Construction & O&M	User Charge
Model-1 ULB will construct, Operate & Maintain	Option 1 : One time use for toilet & bathing = Rs. 5/person Option 2 : Provision of monthly pass @Rs. 30 per person
Model-2 ULB will construct, Operate & Maintains by NGO/Community	
Model-3 Private partner will construct, Operate & Maintain for 30 years	

PROCESS

For immediate needs (based upon survey results) financial support was extended to the ULBs for construction of required infrastructure. For inclusive and effective programme implementation, every urban local body is expected to prepare a City Sanitation Plan (CSP). The IUSP program is based on the following basic principles:

- (i) Adoption of a demand based strategy with community participation in planning, implementation and management of sanitation infrastructure.
- (ii) Adoption of locally suitable methods and technologies.
- (iii) Encouraging community and private participation and fixing their role in creating and maintaining sanitation infrastructure, so that a sense of community ownership in the infrastructure is achieved.
- (iv) Bring coordination among the various departments such as Health, Education, PHED, Industry, Environment, transport, pollution Board, etc., working in the water and sanitation sector.
- (v) Ensuring better utilization of funds allocated under 12th and proposed 13th Finance Commission for management of municipal solid waste.
- (vi) Bringing coordination among various externally aided projects and schemes in the state to achieve better outcomes.
- (vii) Encouraging innovative ideas for fund generation including reforming tax regime, public private partnership, financial market, private companies, user fee, etc.



RESULTS ACHIEVED

Under IUSP emphasis was given on IEC activities. The strengths of the campaign were innovations in Information Education and Communication, motivation through incentives, competitive spirit, active participation and partnerships, involvement of women as well as men, and universal coverage.

Therefore more and more cities of the State are demanding for sanitation activities and it has been envisaged that the Urban Madhya Pradesh would get open defecation free by the year 2017.

Towns like Gautampura, Sailana, Namli and Kukshi have become OD free cities while Hoshangabad town is rapidly moving to achieve the OD free status.





Investment in toilet construction through the provision of generous subsidies for hardware to households has increased the reported coverage of sanitation in the covered cities.

Subsidy-driven programs do not generate motivation for use of the facility. Indeed, subsidized toilets are often not used or lie abandoned, or are being put to alternative uses. Recent studies of statewide sector assessments in India show that most people continue to defecate in the open not due to a lack of access to toilets but primarily because they see no reason to change their behavior because awareness of associated health risks is limited or ignored. In fact, usage of toilets is highest where households recognize the need for toilets and therefore, construct them on their own.

SUSTAINABILITY

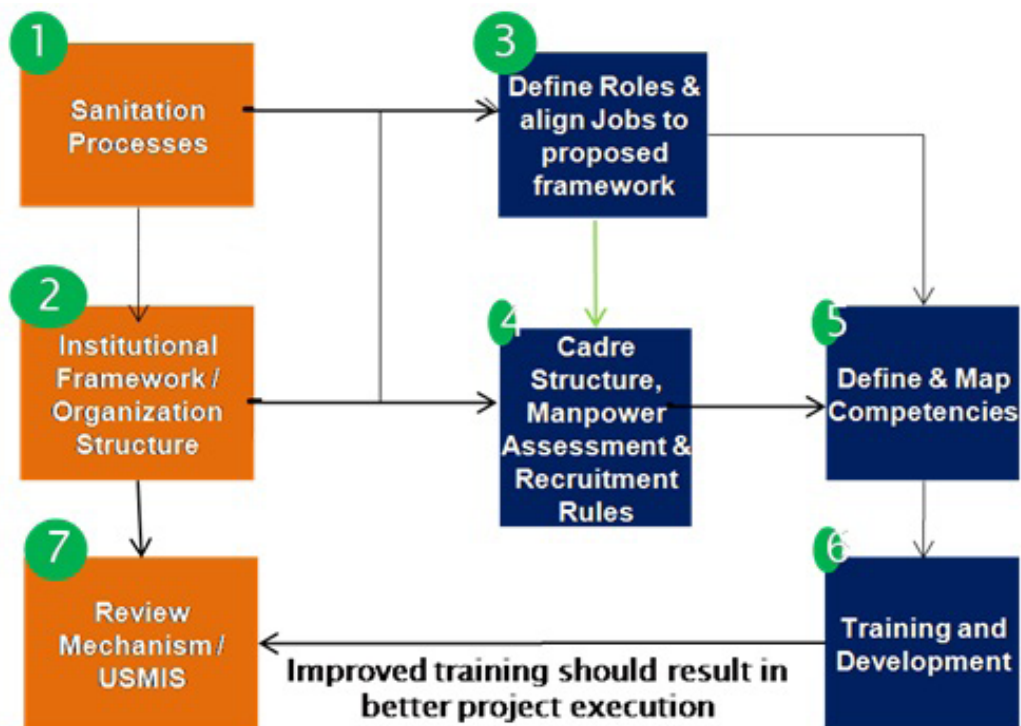
Socio-Economic and Cultural

To be successful, sanitation programs require individuals or households to make a significant commitment by agreeing to modify their homes or adopt new technologies. Because sanitation programs are rarely fully subsidized by government, consumers are frequently expected to pay for the installations themselves.

IUSP : IUSP program has been initiated after a comprehensive household survey and beneficiary consent was obtained for the construction of toilets. Under IUSP, provision of 90% grant makes it possible for individuals to construct individual toilets by one time

investment hence the model proves to be successful.

- Success also depends on consumers' involvement in program management, financing, and promotion.
- As discussed above, beneficiary consent was received first and thereafter the people were oriented through awareness programs and campaigns. Hence beneficiary involvement is there.
- Along with this at places like Kukshi and Gwalior community is maintaining the toilets
- For the intervention to make an impact on health, household members must use and maintain the facility properly and possibly change some basic beliefs and practices in their daily lives. Without consumer demand for better sanitation many of these fundamental steps of program implementation are prone to failure.
- It is most important to make the female family member aware about sanitation. Women, in most of the towns also face security issues in absence of sanitation facility. Hence the target consumers identified under IUSP were women and children. However, males were also included under communication programs and it resulted in success of the initiative.
- The IUSP has been very successful in making people believe that safe sanitation is equally important for them similar to water. Only the old aged persons still don't accept the change and opt for open defecation.



TRANSFERABILITY

IUSP is encouraging locally driven approaches to improve access to sanitation in informal urban settlements. With the right funding and ways of sharing information, their success stories can be replicated and scaled up elsewhere. The IUSP is a statewide program and hence the success stories of cities like Sailana, Kukshi and Hoshangabad are being replicated in other towns also.

FINANCIAL SUSTAINABILITY:

The financial models have proved to be a successful one as very nominal charges are being taken from the users. Along with this no charges are being taken from children and Old aged persons.



JAIPUR NAGAR NIGAM

The Best Practice award in the category of “sanitation” was given to “Jaipur Nagar Nigam” in recognition of its services in Sanitation “Waste to Energy Solutions

Waste to Energy Solutions

BACKGROUND

Jaipur Nagar Nigam (JNN) has established Sewerage Treatment Plant at Delawas comprised two units of 62.5 MLD capacity each which are based on Activated Sludge Process (ASP) technology.

Initially Biogas produced from both the units was allowed to flare up in atmosphere without any recovery/useful conversion but later on it was decided to use the Biogas for productive purpose. Accordingly a power plant for generation of 8800 KWA energy per day was established for using Biogas from STP plant unit-I in year 2009.

After completion of Unit-II in year 2012, it was decided to use the Biogas of second unit for manufacturing of CNG by setting a bottling plant. Such arrangement was made on PPP mode and no funds from government/ULB was used. National level tenders were invited in year 2012 for establishment of the bottling plant on PPP mode. M/s Brijdham Power Pvt. Ltd. was awarded the project after fulfilling required technical qualification criteria and finding their offer as most attractive.



The biogas of second unit is being used for manufacturing of Bio CNG by setting a bottling plant under PPP mode through M/s Brijdham Power Private Limited. The PPP operator has

completed the plant by 31.12.2013 well before the dead line and the trial run of the plant has been allowed in month of January-2014. The plant is now functional.

SALIENT FEATURES

- Land of 10000 sqmtrs is provided to PPP operator on nominal lease of Rs. 1/ sq.mtrs.
- Entire cost of site development, infrastructure and installation of project, commissioning, operation and maintenance is borne by the PPP operator.
- Period of operation after commissioning is 25 years.
- Minimum supply of Biogas from STP plant-6000 Cu.M/day.
- PPP operator to pay Rs. 6.15/cum of each unit of Biogas supplied.
- Scheduled commissioning date of plant was decided as 01.11.2014 but it was commissioned earlier

KEY DATES

1. 10.08.2011	Presentation about use of Biogas for production of CNG was made before NNJ & Government of Rajasthan (GoR) officials.
2. Aug.2012	NNJ invited national level tender from interested entrepreneurs
3. 15.04.2013	NNJ awarded the project at Delawas STP site to M/s Brijdham Power Pvt. Ltd.
4. 07.02.2014	Commissioning of Plant

MOBILIZATION OF RESOURCES

The PPP operator mobilized the financial, technical and human resources in a manner to

provide better & effective results. The promoters has contributed 75% of total project cost approximately Rs.11.00 corers and 25% taken in the form of loan from financial institution. Technical support is outsourced from a very reputed company who has vast experience in this field. Human resources are procured from local area with best educational & technical background.

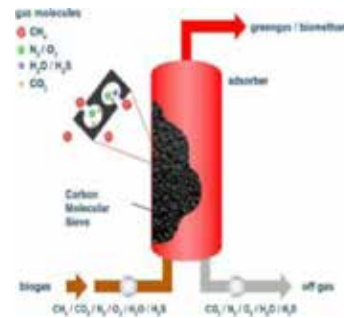
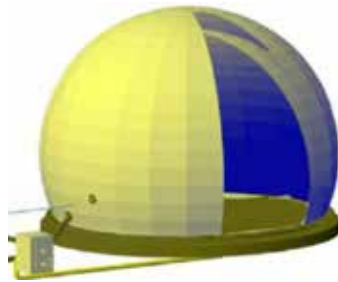
PROCESS

The biogas collected in the membrane will be fed to a roots compressor where pressure of gas is raised to 0.5 kg/ cm²g. This gas is then fed to a zeolite Molecular Sieves based purification unit which has a twin tower arrangement filled with

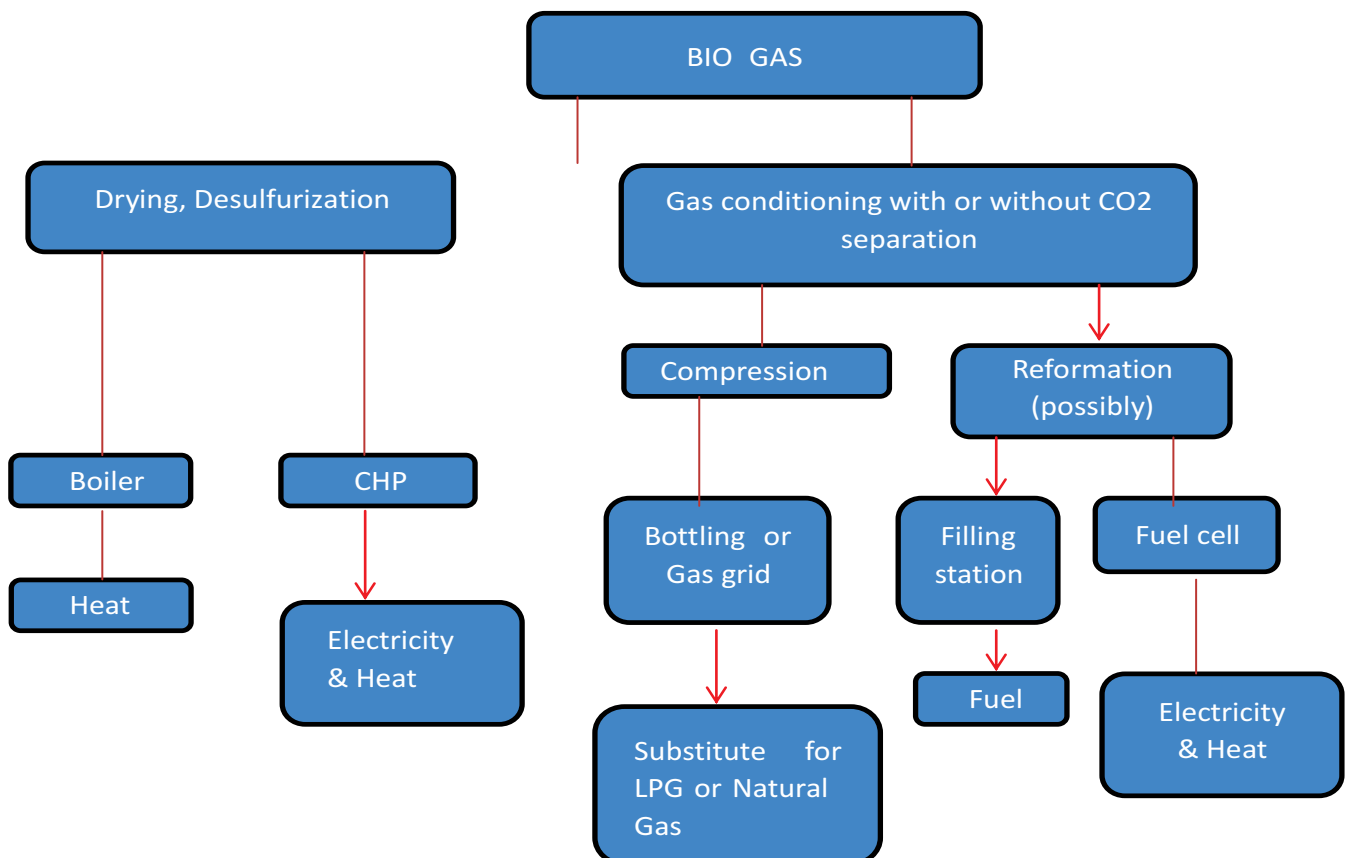
special grade of ZMS to absorb H₂S and CO₂ from the inlet gas. The outgoing gas will be free from H₂S and approximately 5% CO₂. While one tower is purifying the gas, the other tower is taken for regeneration which is achieved by:-

- Depressurization of tower.
- Creating partial vacuum in the tower.
- Providing small purge of pure gas in the reverse direction in the tower.

The changeover from one tower to another is fully automatic and accordingly continuous supply to purified gas is available at the outlet of the system. The outgoing purified gas can be used for combustion purpose.

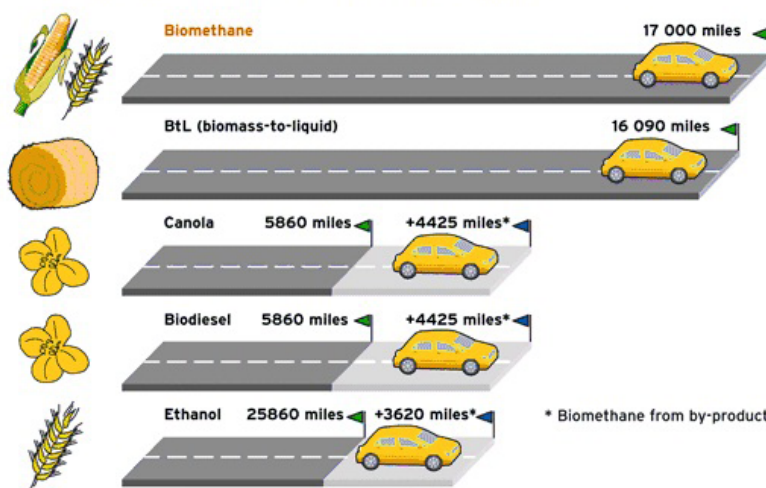


Biogas Balloon



Biofuels in Comparison

Distance a car can travel with biofuels from 1 acre of cropland



Assumed fuel efficiency:
Gasoline-engine 31.7 mpg; Diesel-engine 38.5 mpg

Source: Fachagentur Nachwachsende Rohstoffe e.V. (FNR);
Data reported in metric units, converted to English units

* Biomethane from by-products (Colza cake, distiller's grain, straw)

RESULTS ACHIEVED

The project is a unique example to address the problem of environment pollution, employment using waste to produce useful energy, alternative fuel at affordable price and good model for revenue to local bodies which will help in meeting with O & M cost.

- By putting up of this Project under PPP mode which resulted a tremendous knowledge sharing and employment to local talent.
- The project involved the team work of Company, Nagar Nigam Jaipur, and other organization like Local Self Government Departments, Pollution Control Board, etc

BPPL Biogas Upgradation - VI



Brajdharm Power Private Limited

- By putting up this project, other Local Self Bodies may also think to utilize the Bio Gas produced and flared from STP projects.
- Its production will help jobs and benefits the local economy.
- It will reduce the Vehicular pollution and emission.

BPPL Biogas Upgradation - IV



Brajdharm Power Private Limited

SUSTAINABILITY & TRANSFERABILITY

The produced CBG is to be sold at lower price than the commercial LPG price. Considering the debt equity ratio of 75:25, a payback period of five years shall be the case.

- The socio-economic/ cultural/ environmental impact of project includes

Energetic. CBG is presenting the power of clean fuel against the conventional fuel like LPG.

- Reduced dependence on imported fossil fuels. As CBG is produced locally and within national boundaries, the use of CBG drastically reduces the dependence of local communities on imported fuels and increases the local energy supply.
- Reduction of GHG emissions and diminishing of global warming.
- The use of CBG can reduce emissions of

carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (NO) from the storage and thus contribute to diminishing of global warming.

- Convenient storage of biogas. Biogas/CBG is easily stored and can be used anywhere and at any time.

Biogas potential is known to everyone but the main question is how to harness. The project is a good showcase for existing cases of Biogas plant throughout the country and concept for biogas upgradation and bottling plant can be emulated by other ULB's also.



LUCKNOW DEVELOPMENT AUTHORITY

The Best Practice award in the category of “Urban Design and Regional Planning, Inner City Revitalization and Conservation” was given to “Lucknow Development Authority” in recognition of its Service in Inner city renewal/revitalization, Urban Conservation and Revitalization of Hazratganj Precinct, Lucknow

Urban Conservation & Revitalization of Hazratganj Precinct, Lucknow Development Authority

BACKGROUND

Lucknow has been blessed with deep-rooted culture and heritage (both tangible and intangible). Hazratganj is one such place with rich legacy and heritage (200 year old legacy) and “reinventing and updating itself” in form of up market High Street of Lucknow. Not only was Hazratganj the center of the Lucknowites’ commercial life, it was also an important part of its social life; people thronged the street at weekends to meet friends, see a movie and window-shop (activity locally known as Ganjing).

In the past 30 years, the rapid urbanization has resulted in growth of suburban centers with shopping malls and multiplexes outside the



traditional areas, which were more convenient and accessible. The business in Hazratganj went low, forcing traders to shift or extend their activity to malls. Neglected buildings, dangling hoardings, masked shop fronts hiding beautiful architectural facade, had reinforced the public perception that Hazratganj is not a happening place consequently sinking the spirit of the street under its own apathy.

The prime issues on Hazratganj Street before the intervention were:

- Lack of pedestrian facility and public amenities
- Domination of skyline by Large scale hoardings, signage and banners.
- The building façade and architectural details had been screened off with advertising boards
- Indiscriminate parking and traffic chaos, encroachment and lack of organized open public spaces
- Collapse of infrastructure services.
- Lack of Architectural control

The completion of 200 year of Hazratganj was the spark that initiated both citizens of Lucknow and Government to re-awaken the past and save it before it is lost.

KEY DATES

Initiation of Idea	April 2010
Design Development	July 2010
Start of Work	September 2010
Completion of Work	15th January 2010



FORMULATION OF OBJECTIVES AND STRATEGIES

The objective of the project was to revitalize not only the tangible aspect, such as street facade and street elements, but also conserve intangible aspect of Hazratganj. The priorities can be defines as :

1. Identification of stakeholders and their role in the project.
2. Creating awareness among local stakeholders (shop owners and residents) to respect and know about once heritage which was done by the architect , local intelligentsia, Media and historians.
3. Political support for such a complex project was another priority.
4. Development of Design and conservation strategy of the project by the architect consultant.
5. Execution of project in a limited time (only five months) to complete it towards the 200th anniversary of the Hazratganj.

The objective was to restore the characteristic identity of the street by improving the overall character of the street, strengthening the street infrastructure, vehicular circulation, pedestrian activity and other public utilities. The aim was to make Hazratganj a sustainable market in view of present economic pressure and competition by newly developed markets.

The implementation strategy thus framed comprised the following prime features:

- o Removal of the hoardings and banners, wires & cables
- o Simultaneous dismantling and removal of the encroachments on the pavements, open spaces and terraces of the properties
- o Laying the street infrastructure features & development of pedestrian infrastructure.
- o Development of open spaces at the identified locations
- o Façade restoration and painting and installation of common signage system
- o Road carriageway and circulation pattern suited to traffic analysis



Restoration of street features and walkways

MOBILIZATION OF RESOURCES

Mobilization of resources for such an urban scale project was a challenge. The Political and public support was instrumental in getting financial assistance from the government. Selection of a specialized Conservation architect from the city also helped technical backup required for sensitive development of the project. The media and intelligentsia were actively involved in creating awareness and significance of the project.

Key stakeholders involved in the project were identified and Commissioner of Lucknow was made Nodal officer for the project to coordinate between following stakeholders:

Govt Bodies

- Lucknow Development Authority
- Municipal Corporation Lucknow
- Jal Santhan
- Jal Nigam

- State Power Corporation
- Department of Communication, Government of India. (BSNL)

Private Bodies

- Hazratganj Traders Association
- Halvasia Market traders Association
- Connect Lucknow (group of eminent citizens of Lucknow)

Stakeholder meetings were held during execution of the project. Even now meetings are held to discuss the maintenance issues. All design level decisions were taken in consultation with local stakeholders by apprising them of their importance, alternatives available and their priority before execution.

PROCESS

The prime challenge of the project was to revive the original building facades. The damaged parts of the building were restored in cohesion with the colonial architectural. The details on the building like jack arches, semicircular arches, matrices on the façade, cornices and cast iron details were restored.

The secondary challenge was to bring public interaction back on the street. This was attained by pedestrianizing the street and control the nuisance caused by the vehicles. Eight to ten feet wide pathways were introduced at both the edges of the street.

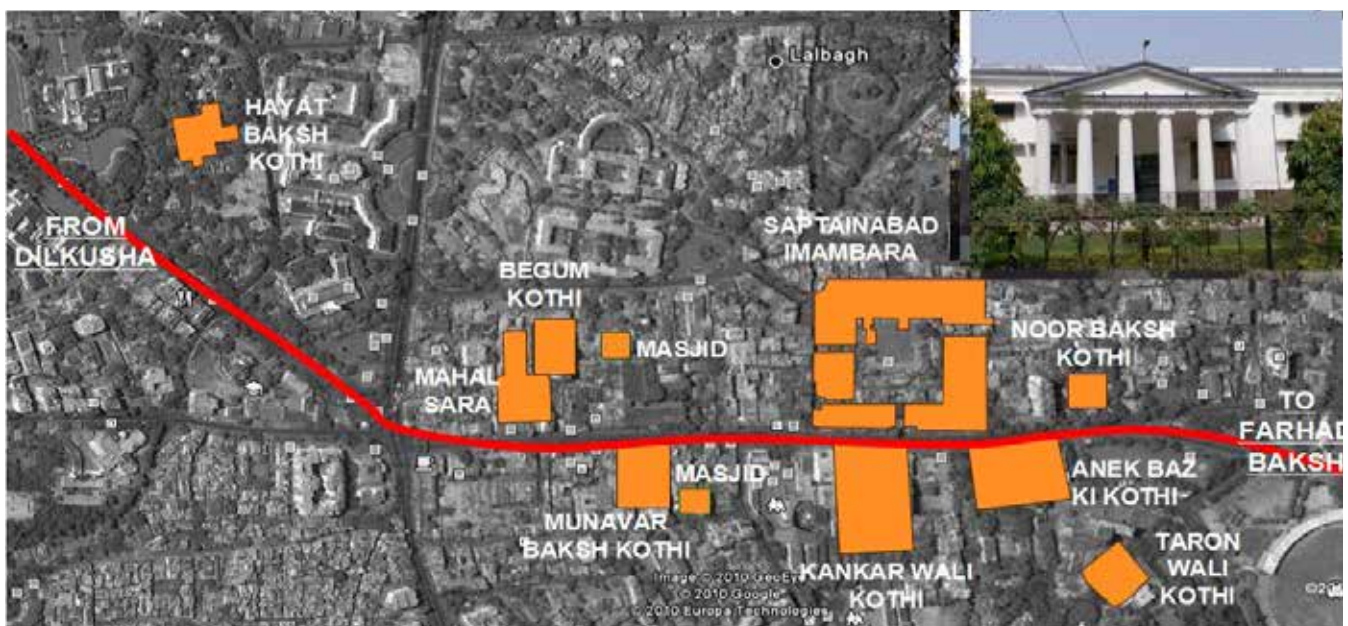
Involvement of multiple government agencies responsible for up gradation of infrastructure was our next challenge. This project was taken as pilot project for urban renewal.

There were certain properties which had been modified to such an extent that it was practically impossible to bring back to its original shape. The stakeholders were convinced and persuaded to conserve their premises on their own. Guidelines for the façade treatment was derived which were unanimously accepted and executed with close supervision of the architect and local citizens.

Approach was a **community - driven, Government supported comprehensive strategy**. In fact the present program for Hazratganj was perfect example of collective efforts from Traders, Government and public at large.

The major highlights of the rejuvenation project are stated below:

- **Restoring character of the street and improvement of views and vistas**
- **Development of activity nodes and piazzas for general public**
- **Development of Open Spaces and restoration of architectural features**
- **Introduction of softscape in the area**
- **Improvement of infrastructural facilities.**



RESULTS ACHIEVED

- The area has become a tourist spot with every visitor coming to Lucknow visits this place at least once to experience the revived "**Sham-e- Awadh**".
- The property owners on the street themselves renovated their own premises on the basis of the standard code for the buildings.
- A uniform code for the architectural façade stating the colour scheme of the buildings and the purposeful strategy releasing the architectural features of the street façade was followed.
- A signage system was developed and was agreed upon by the stakeholders, and applied to the street

These measures helped a lot to achieve the uniform character on the street and a sense of an individual precinct within the surroundings.

The project was acknowledged by awards like 22nd Architect of the year award by J.K white

cement. It is a unique example of synergy between the stakeholders and implementing authorities in the direction of successful co-ordination of the work. Improved transportation routes people find it easier to travel to these suburban malls and new commercial hubs.

Throughout the state, in town after town, the story repeated itself. The business in these areas were low forcing traders to shift or extend their activity to malls, dwindling the property values and also sinking the spirit of the street under its own apathy. Neglected buildings, dangling hoardings, masked shops fronts hiding beautiful architectural facade, trash strewn street gradually had reinforced the public perception that heritage precincts are not a happening place.

The project states that with the positive support and commitment of the government and the management authorities along with the mutual consensus of the stakeholders, efficient solutions can be worked out and executed towards organized urban centers in the cities.



For instance, it was the first time, that multinational companies which have a standard colour scheme for their logos and signage, respected the spirit of the project and followed the colour scheme recommended for the street façade. Well-known brands which often vie for retail space in shopping malls, opened their exclusive stores in the revitalized premises which explains the success of the project and state a learning example.

The success of the project clearly states the sensitivity people have towards their heritage and the potential it can generate when developed with an organized strategy.

SUSTAINABILITY & TRANSFERABILITY

- The economic viability of the project can be stated by the instant growth in the sales of the market. The sales of the commercial establishments have doubled instantaneously after the completion of the project.
- The revitalized Hazratganj premises have witnessed a dramatically increased footfall (almost 4 times) in the suburb, which clearly states the success of the project.
- The once dwindling property rates have

leaped significantly after the project. The rental and property rates are now double the rate before intervention.

- The pedestrianization of the streets and creating green open spaces at intermediate locations have played an important role in recreating the aura of the place. Hazratganj has once again become a centre to patronize the art, culture and lifestyle of the city.
- The civic infrastructure put in place for the street, such as the underground ducting system, drainage pattern and the parking facilities have imparted the street to persist on a long term basis with the same character it has been boasting all this while.

The architect of the project has been invited by various organizations in the county for sharing his experiences and achievement of the project. Bihar, Madhya Pradesh and Punjab Govt have shown keen interest in the methodology of the project. Mall road, Mussoorie, Main Street of Amritsar, Streets leading to Taj in city of Agra are being revitalized based on the concept of Hazratganj. The project became inspiration in urban renewal and revitalization of heritage precincts of other cities of Uttar Pradesh and other states as well. The project attained mass public attention, locally and even nationally.



GANGTOK MUNICIPAL CORPORATION, SIKKIM

The Best Practice award in the category of “Urban Design and Regional Planning, Inner City Revitalization and Conservation” was given to “Gangtok Municipal Corporation” in recognition of its Service in Inner city renewal/revitalization

Inner City Renewal/Revitalization

BACKGROUND

Gangtok, the capital of Sikkim is at an elevation of 1700 m above the mean sea level and is a picturesque hill station. It is the largest town in Sikkim with a population of 100286 persons (Census, 2011). Being the capital it has significance for administrative functions, educational centre, a tourist town and hub of trade and commercial practices.

The town has grown over the years due to evolution of changing conditions. The transformation of the town from 1920's to present time is being shown in four photographs.



Over the last decade, there has been a considerable growth and densification in peripheral rural settlements (revenue blocks) that form a part of present town of Gangtok. The quality of life, the pace of development and availability of basic infrastructure and employment prospects has been the major cause for rapid rural urban migration.

Due to rapid and unplanned growth, the basic amenities and urban services have been affected to a great extent. The infrastructure of the capital is unable to cope up with the demands of the stakeholders and to tourist population. Gangtok is also the main tourism hub of Sikkim. In order to preserve the serene beauty of the town efforts are being made to improve the existing infrastructure, with the techniques of urban renewal and redevelopment.

REMODELING OF MG MARG

M.G. Marg is the main Business Centre used to be a double lane road and the main township of Gangtok was established along its either side. The double-lane starts from the frontage of Tourism Office to Star Cinema Hall having a total length of about 1.00 KM. The lanes were separated by raised flower platform fenced with MS grits along the major portion of its length. There were traffic *rotary* at few intermediate locations. There were problems of congestion, conflict between vehicles and pedestrians, lack of adequate space for street parking facilities, encroachment of open spaces and degradation in the quality of life with rising air pollution from vehicular emissions. The street has been reduced to mere conduits of mobility rather than sites of social experience and expression. The street had lost its cultural and symbolic significance. Seasonal traffic generated during the peak tourist season aggravated the problem.

To preserve the beauty and importance of the Main Business Centre, MG Marg has been declared **No Vehicular Zone**. Presently people entering into MG Marg have to use parking places located at Old West Point School, Old Children Park and Lall Bazaar. The shifting of mainline taxis to Multilevel car park at Deorali has improved the traffic flow in around the city Gulleys has been widened up, redesigned and refurbished to suit the commuters. Bust of Father of Nation after whom the street has been named has been relocated with improved surroundings. **Now the street is one of the best Walking Mall in the Country, free from vehicular traffic**, the visitors can take leisurely walk along the street, rest on chairs and enjoy the beauty in pollution free environment. The project was commenced on June 2007 and completed on December, 2008.

Initially there was resistance from the stakeholders and public apart. The local businessman felt that the closure of vehicular traffic will result in loss of business as people may not visit their shops once vehicles are not allowed into the main market. However, the administration made efforts to convince the long term benefits of changes and managed to convince all the stakeholders. Hence, vehicular traffic has been closed and one way vehicular exit from New Market towards Kashi Raj Marg has been placed. The people entering into MG Marg have to use parking places located at Old West Point School, Old Children Park and Lall Bazaar. The shifting of mainline taxis to Multilevel car park at Deorali has improved the traffic flow in around the city Gulleys has been widened up, redesigned and refurbished to suit the commuters.

Then



Now



Then



Now



KEY DATES

The project was commenced on June 2007 and completed on December, 2008.

MOBILIZATION OF RESOURCES

“The Projects has been funded by the State Government with the assistance from the Government of India.”

PROCESS

Initially there was resistance from the stakeholders and public apart. The local businessman felt that the closure of vehicular traffic will result in loss of business as people may not visit their shops once vehicles are not allowed into the main market. However, the administration made efforts to convince the long term benefits of changes and managed to convince all the stakeholders.

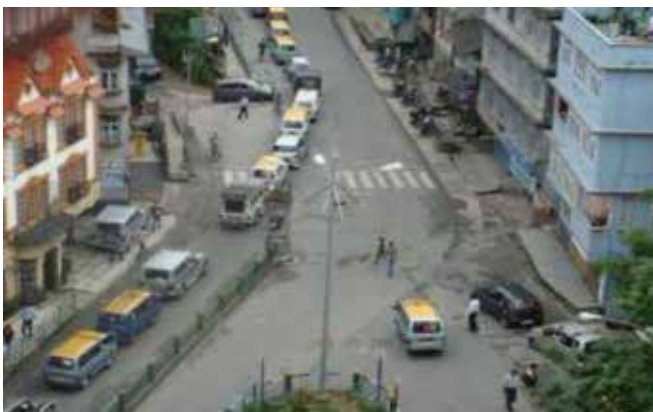
RESULTS ACHIEVED

The traders' fear of loss of Business turned out to be unfounded as the new look of the area attracted more people into the market resulting into more business for the traders. Even the taxi

driver did not lose business as new parking lots have been constructed near to the market from where they are running their business as usual. The rental value of the properties has increased many folds after the construction of THE WALKING MALL AS THE RENEWED AND RE-MODELED INFRASTRUCTURE has added new looks to the town which has given new ambience to the surrounding. The major 'Tourism events' are held at MG Marg which attracts a large numbers of tourists which in turn has increased business viabilities of the place.

CONSTRUCTION OF PEDESTRIAN BUTTERFLY OVER BRIDGE AT DEORALI

Gangtok Municipal Corporation has taken initiative to construct the bridge which has eased the problem of the locality at Deorali as the people being hit by cars while crossing road and the public of the locality have been demanding pedestrian over bridge for safe crossing of the road. The project has been funded by the State Government with assistance from the Government of India. The project commenced during February,2012 and was completed by June 2013.





Then



Now



Then



Now

Deorali being one of the major hubs of the Gangtok town has many government offices, schools and residential areas. The Main National Highway passes through the town and there is always heavy vehicular traffics on the road. There have been instances of people being hit by cars while crossing road. The public of the locality have been demanding pedestrian over bridge for safe crossing of the road.

The initiative saw the light of day due to active participation of all the stakeholders which helped in timely execution of the projects.

RESULTS ACHIEVED

As for the other project, the people whole heartedly supported the initiative as they realized the benefits of the project. The biggest beneficiaries of the project are students, common man and the residents of the localities, who can cross the road without the fear of being hit by speeding cars.

The new look pedestrian over bridge and the public footpath along the national highway has become welcome relief for all the public. This has facilitated the safe walking for the public along the National Highway. The effort has reduced the chances of vehicle hitting the pedestrians walking along the road.

IMPROVEMENT OF PUBLIC FOOTPATH AT KAZI ROAD

Gangtok Municipal Corporation has taken initiative to remodeled and repaired public paths at Tibet Road and the Kazi Road of the city which falls under Tibet Road Municipal ward of the Corporation. This footpath is one of the most important connecting footpaths which is used by a large number of public, office goers and the students. The footpath has been laid with Kota stone and side walls with tiles to make it more user friendly, all the drinking water pipes which were exposed along the path has been laid underground. The pipes can be repaired

internally without digging the surface of the footpath. In order to facilitate people using the footpath at night, footpath has been provided with new street lights. Now the public are happy with the new ambience that the renovated public path has provided.

During the first phase the Corporation undertook the repairing and remodeling of the footpath connecting Tibet Road and the Kazi Road of the city which falls under Tibet Road Municipal ward of the Corporation. This footpath is one of the most important connecting footpaths which are used by a large number of public, office goers and the students. The footpath which was in dilapidated condition crosses through the alley which also provides support for drinking water pipes.

The exposed pipes posed threat to the public using the footpath. The open drainage flowing along the footpath also posed health hazards to the people living nearby. Considering its importance, the Corporation undertook its repairing and re-modeling at an estimated cost of **Rs. 27,36,800.00**. The project was conceived and commenced during August, 2013 and was dedicated to the public on 28th October, 2013.

Gangtok has many such public footpaths which connect different arterial roads of the city. These footpaths which were constructed many years ago are back bones of internal connectivity of the city though most of them are in dilapidated condition. These footpath are used by the students, teachers and poor people from low income group who cannot afford to own car and hire taxi every day for attending their works.

MOBILISATION OF RESOURCES

The Corporation pooled its resources from the fund available under 'Basic Services to Urban Pool' (BSUP) and executed the project itself so as to ensure its timely execution. The local councilor of the Municipal ward played pivotal role to take aboard all the stakeholders for execution of the project.

CONSTRUCTION OF PUBLIC FOOTPATH ALONG THE NATIONAL HIGHWAY, GANGTOK

The initiative for constructing 12 km long pedestrian footpath along the National highway was initiated due to fact that there are large number of Urban poor who cannot afford to own car but have to travel distances. People living in fringe areas of the town prefer to walk short distance from their residence to nearby areas to attend to their daily chores and safe walking for the public along the National Highway. However, the ever increasing vehicular traffic posed threat to the people walking along the road. Hence, the Government considered providing safe walking place for the common man, hence the idea was conceived and implemented.

The effort has reduced the chances of vehicle hitting the pedestrians walking along the road. The project started during 2005 and was successfully completed during 2006.



RESULTS ACHIEVED

- Actual improvement achieved in people's living conditions including women and children;
- Better co-ordination and integration between various actors, organizations or institutions;
- Changes in local, national or regional social, economic and environmental policies and strategies;
- Improved institutional capacity at the national, sub-national or local levels;
- Changes to local or national decision making, including the institutionalization of partnerships;
- Recognizing and addressing specific opportunities and constraints;
- Changes in the use and allocation of human, technical and financial resources at the local/national level;
- Changes in people's attitudes, behavior and in the respective roles of women and men.

LESSONS LEARNED

The biggest lesson learned during the execution of the initiatives are that unless the stakeholders are not involve in any projects and people are

not sensitized about the purpose and benefits of these projects, it will be extremely difficult to execute the projects on time and people may not reap the benefits of such schemes.

SUSTAINABILITY & TRANSFERABILITY

The efforts of the Government has not only eased the pressure on the infrastructures but the renewed and re-modeled infrastructure has added new looks to the town which has given new ambience to the surrounding. The Re-modeling of MG Marg, Construction of Pedestrian Butterfly Over Bridge at Deorali, Improvement of Public Footpath at Kazi Road, Gangtok and Construction of 12 KM Public Footpath along with the National Highway, Gangtok are the assets that local resident are proud of these as the people making use of the infrastructure, consumption of gas (petrol & Diesel) has reduced due to their not using taxis which are the main mode of transport in Gangtok

A large numbers of tourists and officials alike visit Sikkim every year and they are really impressed with the facilities created in the town for tourist and public. Inquiries have been received about the projects from different quarters, however, replication of same will differ due to topography and implementing authority.





Other Appreciated Entries

*As appreciated and acknowledged
by the committee for their role in
Environment improvement*





The following entry submissions were appreciated by the Committee but these were not awarded. They are listed below in no order of preference:

- **Entrepreneurial Execution in Sustainable Materials and Technologies (Environmentally Sound Technology) by Kesrajan Building Centre Private Limited, Ahmedabad.**
- **Solid Waste Management by Bobbili Municipality, Andhra Pradesh**
- **Zero Garbage Management System in Proddatur (Solid Waste Management) by Proddatur Municipality, Andhra Pradesh**
- **Post Disaster Rehabilitation/Reconstruction of low Cost & Disaster Resistant houses in Madhubani (Bihar) by Dr. Sunil Kumar Chaudhary**



Kesarjan Building Centre Pvt. Ltd.

Entrepreneurial Execution in Sustainable Materials and Technologies (Environmental)

BACKGROUND

With conservation at heart Kesarjan started with fly ash product manufacturing and has now expanded from mud blocks to large scale RCC precast units. In course of time, it has undertaken different construction projects, including Rural Housing Project, Earthquake Rehabilitation Work and buildings under VAMBAY, with all appropriate technologies. In addition to our base location in Ahmedabad, the Centre also operates in Kutchh, Delhi, Nagpur and Jamnagar.

Since its initiation the recycling unit is on self-sustaining mode and some of our products like brick contain 70-90% recycle content. We are regularly testing the aggregates and products to ensure that they are as per standards.

Though the Building Centre (BC) movement was at peak in 1996, in Gujarat there were very few takers, even the State Government was not so keen. However at Kesarjan, we found unique synergy between our idea of exploring material's potential and optimizing its usage with that of BC's activities and that has guided us throughout our journey.

MOBILIZATION OF RESOURCES

This Building Centre is an entrepreneurial endeavor by a technocrat. Being first generation entrepreneur there were many financial hurdles. Majority of the investment has been mobilized through family resources in tune of rupees 12 million. Another 3.5 million rupees have been mobilized through bank recently. Initially Building Center grant of 0.5 million was given to Kesarjan. For all research and development work resources are mobilized through internal sources.

PROCESS

Recycling of industrial waste

One of the biggest chunk of waste which caught our attention was 'construction & demolition waste'. Primarily there were two reasons for recycling C&D waste; one was to fix the waste in the building in beneficial way and two replace virgin materials like sand and aggregates.

Recycling of C&D waste was started on a small scale which was self-initiated and self-financed. A small crushing and sieving unit was established that would suffice our internal requirement when fully operational. All research was done using waste from the factory itself. Once stable and tested products were manufactured, C&D waste from the open market was sourced and used. Now products like bricks and blocks with up to 92% recycled content as well as up to M35 grade precast concrete products using the same.

Revival of traditional lime mortar and lime based products

Cement a gift of last century, is wonderful material which has eradicated a 3000 years old material – lime. Definitely lime is inferior for RCC application, at the same time masonry structure built and finished with lime is in front of us



for centuries. Lime has unique chemistry with pozzolana and the resultant product is answer to our major problem with cement mortar for masonry and plaster. Ready Mix Lime Mortar is offered in the market and now being used for heritage as well as new buildings.

RESULTS ACHIEVED

Kesarjan is the first private entrepreneurial facility to set up C&D waste recycling plant without any incentive or subsidies or policy back up.



Waste from demolition contractors, RMC plants and brick kilns is routinely sourced, processed and utilized at the factory. Approximately 1100 tons external waste with more than 1200 tons waste generated at the factory has been already recycled and fixed in value added products. Many people exposed to excellent properties of lime were not able to use it because of the cumbersome lime mortar making process, they have found their solution in ready mix lime mortar.

SUSTAINABILITY

Financial

Lack of scale, inefficient marketing, and half developed approach were few of the hurdles in the way of financial stability and not the eco-friendly approaches. Slowly and gradually grasping the market and moving forward with almost doubling the turnover annually.

Social and Cultural

Experience and guidance of veteran artisans has been treasured by us. Local masons are given hands on training by them at many execution sites. Elaborate documentation process is initiated to conserve dying traditional knowledge database of processes, methodologies and skills.

Environmental

Lime mortar has better properties of insulation, breathability and vapour permeability than cement mortar resulting in increased comfort level and decreased operational energy. Being caustic by nature, lime is naturally dis-infectant and keeps environment healthy. It's almost carbon neutral material as it absorbs CO₂, while setting. Gentle binding properties of lime enables full reuse of adjacent material reducing requirement of new materials.

TRANSFERABILITY

Kesarjan's initiative to recycle C&D waste and produce efficient products is running successfully which can be replicated in any medium to large scale urban areas. M/s Procon, precast concrete manufacturing facility in Ahmedabad, is in the process of setting up infrastructure for recycling construction waste with Kesarjan's support.

Further stride in recycling demolition waste is decentralized processing. Kesarjan in collaboration with Chinmaya mission, Ahmedabad will be recycling their C&D waste to make masonry products on their site itself. This model is replicable in any region.

Kesarjan highly envisages its various initiatives being replicated at various scales and places that will help in our race towards sustainable tomorrow.

Bobbili Municipality, Andhra Pradesh

Solid Waste Management

BACKGROUND

There was improper and inefficient collection of solid waste in the town before the current initiative which began in 2009. People were not aware of safe disposal of municipal solid waste. Most of the garbage in municipal areas was scattered in localities. There was no route map for collection and dumping of garbage and the garbage was collected and dumped in open places. The commissioner in this situation had taken it as a challenge and strongly instructed the concerned officials to provide medicines and other essentials to the public.

The entire 30 Election wards have been divided in to 9 routes with 10 vehicles, 52 regular workers and 105 contract workers deployed to lift garbage regularly and each route allotted with sufficient staff to lift every day generated garbage and de-silting of drains, sweeping of all roads and door to door collection of garbage by implementing dry and wet garbage collection system separately. 96% generated garbage is being lifted every day and remaining 4% lifting of garbage covered in the afternoon sessions.

Task Force Team has been constituted to ride on Hotels, eating establishments, and shops where Violation of Public Health Rules is being found and also to create awareness and impact of collection of door to door garbage and segregation of dry and wet at the source.

MOBILIZATION OF RESOURCES

As far as Solid Waste Management is concerned, 12th Finance Commission has released sufficient funds to implement the system. Apart from public also participated for the initiative in the name of non-revenue of budget to motivate the public for sustainable environment.

PROCESS

40% of the house hold garbage is not being segregated at source level, for which mass education has been taken up with the active participation of community organizations, C.R.P'S, and educational institutions. People responded and cooperated to the Municipality. In order to implement micro level solid waste management practices, the municipality has initiated wall writings, enema slides, introducing programmes and local media covering the entire town with the help of community organizations, N.G.O's and voluntary organizations for sustainable Environment.

RESULTS ACHIEVED

Bobbili Municipality is the first U.L.B. to initiate Push-Carts in AP for D-2-D collection to prevent mixing of major waste streams and promote higher percentage of segregation at source. Achieved No-Dump status as early as 2011 and for the past 3 years has sustained its activities under 3 different commissioners.

Commissioners from every region of Andhra Pradesh are challenging themselves to raise the bar ever so higher in urban solid waste resource management. Our state is marching towards MSW Rules compliance with innovative models that are simple and replicable.



SUSTAINABILITY

The workers were trained in segregation of organic and inorganic waste through the route managers instead of asking households. The Push carts were introduced with bins for wet and bags for dry, to achieve 100% segregation at the point of collection. It was introduced gradually in avoiding issues of team and waste handling. The inorganic waste at the park is segregated into various categories, broadly, plastics, glass bottles, metals and non-recyclables.

The municipality established 7 units bio gas production system with the help of 50% subsidy of NEDCAP foundation, each unit having a capacity of 2 cubic meters, with 14 cubic meter total capacity. Cow dung is mixed with bio-composting leach ate for the bio gas production. Input of the each unit 50 lit of leach ate mixed with 50 kgs of cow dung same quantities of output will come from the biogas unit. Presently

methane (CH₄) gas is used for cooking for workers and Electricity Is being produced from the produced bio gas with the help of diesel generator by consuming 30 of the total fuel.

TRANSFERABILITY

The initiative of SWM was taken from the best practices of Suryapet Municipality. And also the process of Vermicomposting was followed under the guidance department of Horticulture of Bobbili Municipality. C&DMA has resolved to conduct Solid Waste management review meetings only at the compost yards and Solid Waste Resource Management Parks after the first review at Bobbili, happened in July 2011.

Many Municipalities of A.P, Students of Engineering and Medical Colleges, N.G.O's have visited and got inspired by the initiative. Training, Educational and Awareness programme has become regular activity.



Proddatur Municipality, Andhra Pradesh

Zero Garbage Management System in Proddatur (Solid Waste Management)

BACKGROUND

The municipality implemented 100% Door to door Collection of all types of waste including street waste into two bin system i.e., biodegradable and non-biodegradable (recyclables) form. The segregated collected garbage is being transported to compost yard. 4MT of Dry Recyclable waste is send to recyclable unit, maintained by outsourcing agency. 43 MT of wet garbage is Processed on the same day into vermi, box and windrows composting. 12 MT of debris is used in low level areas for leveling. 20 MT of silt is kept in a separated compartment in compost yard. 1 Mt of inert material is send to DALMIA CEMENTS for incineration. In the way, we have converted the entire 80 MT of daily collection of garbage is processed and to make zero i.e. zero garbage management system. The compost yard is being maintained as a park and growing the floriculture and vegetable farming.

MOBILIZATION OF RESOURCES

Materials like 10000 cloth bags, various types of IEC materials and vehicles such as push carts and dust bins are arranged by donors in our areas and the rest of the material is purchased by municipality.



PROCESS

- Source segregation
- Door to door collection
- Road Sweep
- Transportation
- Disposal of Solid Waste
- Vermi Compost
- Box Composting
- Windrows composting
- Community Composting



- House Composting
- Recycling of Non Bio-degradables
- Reclamation
- Drain Silt
- Debris
- Anti larva Operation

RESULTS ACHIEVED

- Free from Garbage on the streets, the town looks very neat and the status of the ULB is measured with this service.
- The entire biodegradable waste is processed in to manure on the same day by following windrows, box and vermi composting methods.
- The entire non biodegradable is being sold to Sneha Foundation @ Rs. 2/kg
- The inert material is dumped in the scientific landfill site.
- No garbage is accumulated in the town or compost yard i.e., zero garbage leads to clean, healthy and eco friendly atmosphere in the town.



Post Disaster Rehabilitation/Reconstruction of low Cost & Disaster Resistant houses in Madhubani (Bihar)

BACKGROUND

The River Kamla diverted from its natural course in proximity of the Nepali border, at about 12 km up the existing barrage, and as it breached its embankments, the river started flowing on a completely different course, washing away human settlements and cultivations on a breadth of 15 km and a total length of 150 km towards South. Over 2 million people were affected in five districts; more than 340700 houses were damaged along with significant losses of crops and cattle due to the protracted inundations.

In the light of above the main purpose was:

- Rehabilitation of flood victim homeless people by constructing affordable, eco-friendly, climate sensitive and disaster resistant House;
- Another objective was to create two significant changes at the community level, a registry of all homeless persons and a plan to move 2.5 per cent of the chronic and vulnerable homeless population into permanent housing each month
- To promote 'environmentally conscious' and 'people-centred' rehabilitation processes,

where innovations might consist of small technological improvements of existing and well-established practices to make them safer and more durable in time of disasters.

MOBILIZATION OF RESOURCES

The main source of finance was Disaster Management Department, Building construction Department, Govt. of Bihar and Donation from public and Private party. Currently there is no cost to the participating communities. At the conclusion of the Campaign, PARYAVARAN KI KHATIR (PKH) plans to continue many of the consultancy services to communities for a fee.

The Campaign has a full-time director of strategic partnerships based Patna who provides technical inputs and connects the grass roots work with high level officials and organizations. This person works closely with several central government departments and local people with whom PKH synchronizes efforts to move vulnerable homeless persons into permanent housing.

PROCESS

Damage Assessment: A total of 44 households out of 110 in Khirhar and 80 out of 102 in



Siriyapur village resulted seriously affected by the flooding and were chosen as the beneficiaries of the two pilot projects. The villagers are all marginal farmers which make their living on cattle breeding (few cows, buffaloes and goats) and rice cultivation on small plots of land.

Assessment of Innovative local resources: PKH conducted disaster assessments to identify the major local resources available in the area. It encountered an exceptional abundance of bamboo with compatible features for building purposes, along with well-established skills and capacities of local masons and artisans with bamboo techniques.

Community Meetings: As a first step, a number of community meetings were arranged once a week to identify people's housing needs, expectations and to introduce the principles of the ODR process.

BAMBOO MODEL HOUSES AND EXPOSURE VISITS

Four different prototypes were built in order to experiment their affordability and resistance according to different choices of structural systems, joints, wall filling and size of living space.

Setting up the Demonstration Hub and Artisans Training: With the help of Disaster Management Department, Govt of Bihar, PKH created a Community Hub, which is a complex

of resource facilities made to provide technical support to beneficiaries and local masons in form of knowledge sharing, quality control of construction, skill trainings and workshops on bamboo techniques, crafts, treatment processes etc.

RESULTS ACHIEVED

- The experience has already had an important impact, both for the residents who have been actively involved throughout the process and for other grass roots groups around the state and other part of country .As a result of pressures, mobilization of these groups, state legislation has been approved that enables other community-based organizations and social movements to access federal land for housing construction.
- Over 17000 flood victim homeless people have been permanently housed to date in three district of Bihar. Levels of income and employment increased. Rapid-results teams also report changes in mind set, behaviours and processes that carry the effect beyond their life span.
- Residents have been trained in building construction and self-management of resources.
- The project has succeeded in mobilizing a diverse group of people who previously felt a sense of hopelessness. Community meetings went from having 150 persons in attendance to over 350 people currently participating.





SUSTAINABILITY

- The Campaign believes that the best way of ending homelessness permanently is to provide an integrated but tailored package of housing + health + employment support.
- Where relevant, homeless people receive employment support, which has increased income and employment. Having a permanent address is important in being able to access employment.
- The Campaign provides capacity building and support to enrolled flood victims
- Flood victim people living in open space, where their health and safety are at great risk, to stable housing almost always have a positive impact. Over 10% of flood victim adults struggle with mental illness. PKH now has a Programme that targets Medicaid funds to support housing for homeless people.
- Training and approach applies a number of appropriate building technologies increasing the positive environmental impact of the project.
- The house construction process requires

the use of fewer building materials.

- The project incorporates the use of biogas and solar energy and eliminates the burning of coal and emissions of CO₂

TRANSFERABILITY

- This practice of Rehabilitation is a scaling-up process in itself, taking a proven approach in Madhubani and Darbhanga to the Bihar as a whole and beyond. This practice itself attempts to accept as many invitations as possible to visit external organizations in the India to discuss and advocate the practice's methodology.
- This practice now works on a regular basis with 17 local coalitions across India. Many visitors have come to see the project, including grass roots groups, community leaders, international visitors and university students
- The PKH has carried out a number of workshops and exchanges with other communities to transfer knowledge and tools, and a blog is under preparation to share the experience more widely.

Contact Details of Best Practice Award Winning Entries

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