Documentation of Best Practices

Volume 3:
Under
Peer Experience And Reflective Learning (PEARL)
JnNURM

National Institute of Urban Affairs
April 2010
PEER EXPERIENCE AND REFLECTIVE LEARNING (PEARL)

DOCUMENTATION OF BEST PRACTICES
Under JNNURM

Volume 3

Submitted To
Ministry of Urban Development
Government of India

Compiled By
National Institute of Urban Affairs
Core 4B, I & II Floor, India Habitat Centre, Lodhi Road, New Delhi-110003
Ph: 011-24627543, 24643284,
Fax: 011-24617513
Website: www.indiaurbanportal.in
www.niua.org

April 2010
TEAM MEMBERS

Prof. V.K. Dhar
HUDCO Chair Professor & Project Coordinator

Ms. Nilanjana Dasgupta Sur
Research Fellow & Asstt. Project Coordinator

Ms. Poornima Singh
Research Associate

Ms. Rommani Sen
Research Associate

Ms. Indu Senan
Research Asistance

ADVISOR

Prof. Chetan Vaidya
Director, NIUA
Preface

The Government of India has launched the Jawaharlal Nehru Urban Renewal Mission (JNNURM) in 2005 in 65 mission cities for upgrading infrastructure and for providing basic services to the urban poor. Work in the mission cities is in progress covering areas like water supply, sanitation and urban transport. Governance reforms under JNNURM have increased the efficiency and transparency of the Urban Local Bodies administrative wings.

Over last five years, several State Governments and Urban Local Bodies have come up with innovative ideas to plan and implement reforms. Some of these urban initiatives have been documented and disseminated among cities for knowledge sharing and horizontal learning under the MoUD approved mega project “Peer Experience and Reflective Learning (PEARL)” Programme, under JNNURM. The objective was to create an effective network of JNNURM cities for cross learning and sharing knowledge on urban reforms, city governance and urban infrastructure projects so that objectives of the Mission can be successfully achieved to make cities more livable, economically vibrant and environmentally sustainable.

PEARL has already documented two volumes of best practices carried out in JNNURM cities covering a wide range of topics viz. use of new technologies, urban governance, reforms, Public-Private Partnerships, service delivery, shelter and security of tenure, livelihood including micro credit, social development, urban mobility, urban environment, standardization, community development, awareness raising, capacity building, etc.

This is the third volume of “Documentation of Best Practices” on initiatives taken up by mission cities. This is an initiative to highlight some of the admirable and creditable work being done by the ULBs. The documentation is expected to serve as a source of learning and sharing of experiences. We are thankful to the Ministry of Urban Development for this opportunity of being the National Coordinator for the PEARL Programme.

Prof. Chetan Vaidya
Director
NIUA
Acknowledgement

This third volume of the “Best Practices” Report is prepared for “Peer Experience and Reflective Learning” (PEARL) under the flagship programme on JnNURM.

We would like to thank Dr. M. Ramachandran, IAS, Secretary (UD), for his guidance and support. Special thanks are also due to Mr. P.K.Srivastava, JS & Director, JnNURM, MoUD for his suggestions and comments. We would also like to specially thank the Contributors of Best Practices on Urban Reforms from various mission cities, who shared the framework for documenting the good practice and valuable experiences upon which this publication is based. The following contributors provided valuable materials, feedback and advice in the preparation of this Report: Mr. Piyush Ranjan Rout, Mr. Manoj Kumar Teotia, Ms. Sapna, Ms. Shilpa Narayan, Prof. Bhupatthi Rav, Prof. V.Gnaneshwar, Ms. Trupti Jain, Dr. Debolina Kundu, Ms. Hemlatha K, Mr. Javed Anwar Siddiqui Mr. Anurag Agrawal, Prof. N. N. Som and Mr. Sanjeev Patil,

This documentation has been taken up to provide useful insights into initiatives being undertaken by ULBs in India. We would like to acknowledge the hard work put in by Ms. Nilanjana Dasgupta Sur for compiling, editing, layout and graphic designing of the entire Report. Our sincere gratitude and appreciation also goes to key members of the project, Ms. Poornima Singh, Ms. Roomani Sen and Ms. Indu Senan of the Institute who contributed in compilation, documentation and preparation of the Report. The entire work was conducted under the able guidance of Prof. Chetan Vaidya, Director NIUA.

Prof.V.K.Dhar
HUDCO Chair Professor &
PEARL Project Coordinator
# List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>A C A</td>
<td>Additional Central Assistance</td>
</tr>
<tr>
<td>A M C</td>
<td>Ahmedabad Municipal Corporation</td>
</tr>
<tr>
<td>A R V</td>
<td>Annual Ratable Value</td>
</tr>
<tr>
<td>A U D A</td>
<td>Ahmedabad Urban Development Authority</td>
</tr>
<tr>
<td>B B M P</td>
<td>Bruhat Bangalore Mahanagar Palike</td>
</tr>
<tr>
<td>B M C</td>
<td>Bhubaneswar Municipal Corporation</td>
</tr>
<tr>
<td>B M T C</td>
<td>Bangalore Metropolitan Transport Corporation</td>
</tr>
<tr>
<td>B O D</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>B O T</td>
<td>Build-Operate-Transfer</td>
</tr>
<tr>
<td>B S E A</td>
<td>Brigade Shops Establishments Association</td>
</tr>
<tr>
<td>B S U P</td>
<td>Basic Services to Urban Poor</td>
</tr>
<tr>
<td>B T S</td>
<td>Bangalore Transport Service</td>
</tr>
<tr>
<td>B W S S B</td>
<td>Bangalore Water Supply and Sewerage Board</td>
</tr>
<tr>
<td>C A</td>
<td>Cities Alliance</td>
</tr>
<tr>
<td>C C C</td>
<td>Centralized Consumer Cell</td>
</tr>
<tr>
<td>C C S</td>
<td>Central Control Station</td>
</tr>
<tr>
<td>C D P</td>
<td>City Development Plan</td>
</tr>
<tr>
<td>C F C</td>
<td>Citizen Facilitation Center</td>
</tr>
<tr>
<td>C M G</td>
<td>City Management Group</td>
</tr>
<tr>
<td>C M U</td>
<td>Change Management Unit</td>
</tr>
<tr>
<td>C N G</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>C S M C</td>
<td>Central Sanctioning and Monitoring Committee</td>
</tr>
<tr>
<td>D C D P</td>
<td>Draft City Development Plans</td>
</tr>
<tr>
<td>D D O</td>
<td>Drawing and Disbursing Officer</td>
</tr>
<tr>
<td>D L B</td>
<td>Directorate of Local Bodies</td>
</tr>
<tr>
<td>D P C</td>
<td>District Planning Committees</td>
</tr>
<tr>
<td>D P G</td>
<td>DCDP Policy Group</td>
</tr>
<tr>
<td>D P R</td>
<td>Detailed Project Report</td>
</tr>
<tr>
<td>D T G</td>
<td>DCDP Technical Groups</td>
</tr>
<tr>
<td>E C S</td>
<td>Electronic Clearing System</td>
</tr>
<tr>
<td>E R P</td>
<td>Enterprise Resource Planning</td>
</tr>
<tr>
<td>E S R</td>
<td>Elevated Service Reservoirs</td>
</tr>
<tr>
<td>E W S</td>
<td>Economically Weaker Sections</td>
</tr>
<tr>
<td>F B A S</td>
<td>Fund Based Accounting System</td>
</tr>
<tr>
<td>F C C</td>
<td>Finance and Contract Committee</td>
</tr>
<tr>
<td>F M C</td>
<td>Faridabad Municipal Corporation</td>
</tr>
<tr>
<td>F O B</td>
<td>Foot Over Bridges</td>
</tr>
<tr>
<td>F S I</td>
<td>Floor Space Index</td>
</tr>
<tr>
<td>F Y C</td>
<td>Fund-Your-City</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>G B M C</td>
<td>Greater Bangalore Municipal Corporation</td>
</tr>
<tr>
<td>G H M C</td>
<td>Greater Hyderabad Municipal Corporation</td>
</tr>
<tr>
<td>G I S</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>G M C</td>
<td>Gorakhpur Municipal Corporation</td>
</tr>
<tr>
<td>G O I</td>
<td>Government of India</td>
</tr>
<tr>
<td>G O W B</td>
<td>Government of West Bengal</td>
</tr>
<tr>
<td>G S R T C</td>
<td>Gujarat State Regional Transport Corporation</td>
</tr>
<tr>
<td>G S T C</td>
<td>Gujarat State Transport Corporation</td>
</tr>
<tr>
<td>H M D A</td>
<td>Hyderabad Metropolitan Development Authority</td>
</tr>
<tr>
<td>H M W S S B</td>
<td>Hyderabad Metropolitan Water Supply and Sewerage Board</td>
</tr>
<tr>
<td>H U D A</td>
<td>Hyderabad Urban Development Authority</td>
</tr>
<tr>
<td>I C R A</td>
<td>Internet Content Rating Association's</td>
</tr>
<tr>
<td>I L &amp; F S</td>
<td>Leasing &amp; Financial Services Limited</td>
</tr>
<tr>
<td>I L G U S</td>
<td>Institute of Local Government and Urban Studies</td>
</tr>
<tr>
<td>J N N U R M</td>
<td>Jawaharlal Nehru National Urban Renewal Mission</td>
</tr>
<tr>
<td>K L</td>
<td>Kiloliters</td>
</tr>
<tr>
<td>K M</td>
<td>Knowledge Managers</td>
</tr>
<tr>
<td>K M C</td>
<td>Kolkata Municipal Corporation</td>
</tr>
<tr>
<td>K M D A</td>
<td>Kolkata Metropolitan Development Authority</td>
</tr>
<tr>
<td>K M P C</td>
<td>Kolkata Metropolitan Planning Committee</td>
</tr>
<tr>
<td>K N S U</td>
<td>Knowledge Network Support Unit</td>
</tr>
<tr>
<td>K S R T C</td>
<td>Karnataka State Road Transport Corporation</td>
</tr>
<tr>
<td>M C A</td>
<td>Municipal Corporation of Amritsar</td>
</tr>
<tr>
<td>M C B</td>
<td>Miniature Circuit Breaker</td>
</tr>
<tr>
<td>M C G M</td>
<td>Municipal Corporation for Greater Mumbai</td>
</tr>
<tr>
<td>M C H</td>
<td>Municipal Corporation of Hyderabad</td>
</tr>
<tr>
<td>M E D</td>
<td>Municipal Engineering Directorate</td>
</tr>
<tr>
<td>M N</td>
<td>Mehsana Nagarpalika</td>
</tr>
<tr>
<td>M O A</td>
<td>Memorandum of Agreements</td>
</tr>
<tr>
<td>M O H</td>
<td>Medical Officer of Health</td>
</tr>
<tr>
<td>M O H U P A</td>
<td>Ministry of Housing and Urban Poverty Alleviation</td>
</tr>
<tr>
<td>M O U</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>M O U D</td>
<td>Ministry of Urban Development</td>
</tr>
<tr>
<td>M P C</td>
<td>Metropolitan Planning Committees</td>
</tr>
<tr>
<td>N B M</td>
<td>New Barrackpore Municipality</td>
</tr>
<tr>
<td>N D I T A</td>
<td>Naba Diganta Industrial Township Authority</td>
</tr>
<tr>
<td>N G O</td>
<td>Non-Governmental Organisations</td>
</tr>
<tr>
<td>N W C M C</td>
<td>Nanded Waghala City Municipal Corporation</td>
</tr>
<tr>
<td>O N G C</td>
<td>Oil and Natural Gas Corporation Limited</td>
</tr>
<tr>
<td>O &amp; M</td>
<td>Operation and Management</td>
</tr>
<tr>
<td>P C M C</td>
<td>Pimpri Chinchwad Municipal Corporation</td>
</tr>
<tr>
<td>P E A R L</td>
<td>“Peer Experience and Reflective Learning”</td>
</tr>
<tr>
<td>P I L</td>
<td>Public Interest Litigation</td>
</tr>
<tr>
<td>P L C</td>
<td>Programmable Logic Controllers</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>P M</td>
<td>Puri Municipality</td>
</tr>
<tr>
<td>P P P</td>
<td>Public-Private Partnership</td>
</tr>
<tr>
<td>R C C</td>
<td>Reinforced Cement Concrete</td>
</tr>
<tr>
<td>R D F</td>
<td>Refuse Derived Fuel</td>
</tr>
<tr>
<td>R M C</td>
<td>Rajkot Municipal Corporation</td>
</tr>
<tr>
<td>R T G S</td>
<td>Real Time Gross Settlement</td>
</tr>
<tr>
<td>R U T</td>
<td>Rajkot Urban Transportation</td>
</tr>
<tr>
<td>S A S</td>
<td>Self-Assessment Scheme</td>
</tr>
<tr>
<td>S J S R Y</td>
<td>Swarna Jayanti Rojgar Yojna</td>
</tr>
<tr>
<td>S M C</td>
<td>Surat Municipal Corporation</td>
</tr>
<tr>
<td>S P R I S M</td>
<td>Society for Planning and Research in Sustainable Management</td>
</tr>
<tr>
<td>S P V</td>
<td>Special Purpose Vehicle</td>
</tr>
<tr>
<td>S T P</td>
<td>Sewerage Treatment Plant</td>
</tr>
<tr>
<td>S T U</td>
<td>State Transport Undertaking’s</td>
</tr>
<tr>
<td>S U D A</td>
<td>State Urban Development Agency</td>
</tr>
<tr>
<td>S W M</td>
<td>Solid Waste Management</td>
</tr>
<tr>
<td>T S P</td>
<td>Total Solution Provider</td>
</tr>
<tr>
<td>U I G</td>
<td>Urban Infrastructure and Governance</td>
</tr>
<tr>
<td>U L B</td>
<td>Urban Local Bodies</td>
</tr>
<tr>
<td>W B I</td>
<td>World Bank Institute</td>
</tr>
<tr>
<td>W B V B</td>
<td>West Bengal Valuation Board</td>
</tr>
<tr>
<td>W S P</td>
<td>Water and Sanitation Program</td>
</tr>
<tr>
<td>W T P</td>
<td>Water Treatment Plant</td>
</tr>
<tr>
<td>Z A C F</td>
<td>Zonal Assistant Commissioner of Finance</td>
</tr>
</tbody>
</table>
Our Contributors

1. **Solid Waste Management through Bio-Composting:** Puri, Orissa; Mr. Piyush Ranjan Rout, Executive Director, CMAO, Bhubaneswar.

2. **Vending Zones at Bhubaneswar, Orissa:** Mr. Piyush Ranjan Rout, Executive Director, CMAO, Bhubaneswar.

3. **Improved Collection and Transportation of Municipal Solid Waste through PPP:** Amritsar, Punjab; Mr. Manoj Kumar Teotia, SRF / Assistant Professor (HUDCO Chair), CRRID, Chandigarh.

4. **Automated Parking System:** Bangalore, Karnataka; Ms. Sapna, Project Coordinator, and Ms. Shilpa Narayan, Best Practices Specialist, CMAK, Bangalore.

5. **Fleet Expansion/ Modernization Programmes of City Public Transportation:** Bangalore, Karnataka; Ms. Sapna, Project Coordinator and Ms. Shilpa Narayan, Best Practices Specialist, CMAK, Bangalore.

6. **Payroll System in Bruhat Bangalore Mahanagara Palike:** Bangalore, Karnataka; Ms. Sapna, Project Coordinator and Ms. Shilpa Narayan, Best Practices Specialist, CMAK, Bangalore.

7. **GIS for Property Tax in Bruhat Bangalore Mahanagara Palike:** Bangalore, Karnataka; Ms. Sapna, Project Coordinator and Ms. Shilpa Narayan, Best Practices Specialist, CMAK, Bangalore.

8. **Transport Services on PPP Basis:** Rajkot, Gujarat; Ms. Trupti Jain, Executive Director, CMAG, Ahmedabad.

9. **Cost effective housing for the Urban Poor:** Ahmedabad, Gujarat; Ms. Trupti Jain, Executive Director, CMAG, Ahmedabad.

10. **Mehsana Nagarpalika initiates PPP for Property Tax Collection:** Mehsana, Gujarat; Ms. Trupti Jain, Executive Director, CMAG, Ahmedabad.

11. **Planning to Reduce Impact of Disaster:** Surat, Gujarat; Ms. Trupti Jain, Executive Director, CMAG, Ahmedabad.

12. **Fund Your City - A PPP Initiative For Urban Infrastructure Development:** Hyderabad, Andhra Pradesh; Prof. Bhupatthi Rav, Director and Member, Executive Council, and Prof. V. Gnaneshwar, Regional Centre for Urban and Environmental Studies (RCUES), Hyderabad.

13. **Preparation Process for Draft Development Plan:** Kolkata, West Bengal; Prof. N. N. Som, Team Leader, Professor (HUDCO Chair), Urban Management Centre, Administrative Training Institute (ATI), Kolkata.
14. **Initiatives under Urban Renewal at Nanded Waghala City Municipal Corporation:** Nanded, Maharashtra; *Mr. Sanjeev Patil, Project Manager, IL & FS, Pune.*

15. **Trade License in Bruhat Bangalore Mahanagara Palike:** Bangalore, Karnataka; *Dr. Debolina Kundu, Assttn. Professor, NIUA and Ms. Hemlatha K, Environmental Engineer, Bruhat Bangalore Mahanagara Palike.*

16. **Water Supply and Sewerage Project, Salt Lake (Sector V):** Kolkata, West Bengal; *Ms. Nilanjana Dasgupta Sur, Research Fellow, NIUA and Ms. Poomima Singh, Research Associate, NIUA.*

17. **Bore Well Automation:** Faridabad, Haryana; *Ms. Nilanjana Dasgupta Sur, Research Fellow, NIUA and Ms. Poomima Singh, Research Associate, NIUA.*

18. **PPP Model for Underground Car Parking System:** Kolkata, West Bengal; *Dr. Rajesh Chandra, Research Officer and Dr. Debjani Ghosh, Senior Research Officer; “Best Practices in PPP on Urban Transport”, NIUA, March 2010.*

19. **Initiatives for the Urban Poor:** Mumbai, Maharashtra; *Ms. Nilanjana Dasgupta Sur, Research Fellow, NIUA and Ms. Rommani Sen, Research Associate, NIUA.*

20. **Municipal GIS - Gorakhpur Experience:** Gorakhpur, Uttar Pradesh; *Ms. Poomima Singh, Research Associate, NIUA, Mr. Javed Anwar Siddiqui and Mr. Anurag Agrawal, Computer Section, Gorakhpur Nagar Nigam.*
# Index

- **PREFACE**  
- **ACKNOWLEDGEMENT**  
- **ABBREVIATIONS**  
- **OUR CONTRIBUTORS**  
- **INDEX**  
- **INTRODUCTION**  
- **WATER SUPPLY**  
  - Water Supply and Sewerage Project Salt lake (Sector V): Kolkata, West Bengal  
  - Bore Well Automation: Faridabad, Haryana  
- **SOLID WASTE MANAGEMENT**  
  - Solid Waste Management Through Bio Composting: Puri, Orissa  
  - Improved Collection and Transportation of Municipal Solid Waste through PPP: Amritsar, Punjab  
- **ROADS/FLYOVER/OTHERS**  
  - Automated Parking System: Bangalore, Karnataka  
  - PPP Model for Underground Car Parking System: Kolkata, West Bengal  
- **PUBLIC TRANSPORT SYSTEM**  
  - Fleet Expansion/ Modernization Programmes of City Public Transportation: Bangalore, Karnataka  
- **PUBLIC-PRIVATE PARTNERSHIP**  
  - Fund Your City - A PPP Initiative For Urban Infrastructure Development: Hyderabad, Andhra Pradesh  
  - Transport Services on PPP Basis: Rajkot, Gujarat  
- **URBAN POVERTY**  
  - Cost effective housing for the Urban Poor: Ahmedabad, Gujarat  
  - Initiatives for the Urban Poor: Mumbai, Maharashtra  
- **URBAN REFORMS**  
  - Trade License in Bruhat Bangalore Mahanagara Palike: Bangalore, Karnataka  
  - Municipal GIS - Gorakhpur Experience: Gorakhpur, Uttar Pradesh  
  - Mehsana Nagarpalika initiates PPP for Property Tax Collection: Mehsana, Gujarat  
  - Payroll System in Bruhat Bangalore Mahanagara Palike: Bangalore, Karnataka  
  - GIS for Property Tax in Bruhat Bangalore Mahanagara Palike: Bangalore, Karnataka  
  - Preparation Process for Draft Development Plan: Kolkata, West Bengal  
- **URBAN RENEWAL**  
  - Initiatives under Urban Renewal in Nanded Waghala City Municipal Corporation: Nanded, Maharashtra  
  - Vending Zones: Bhubaneswar, Orissa  

---

National Institute of Urban Affairs (NIUA), New Delhi
DISASTER MANAGEMENT SYSTEM
Planning to Reduce Impact of Disaster: Surat, Gujarat

ANNEXURES
Introduction

Background

In December 2005, Government of India (GOI) launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to boost urban development. JNNURM consists of two sub-missions, Urban Infrastructure and Governance (UIG) and Basic Services for the Urban Poor (BSUP), and these are being implemented by Ministries of Urban Development (MoUD) and Ministry of Housing and Urban Poverty Alleviation (MoHUPA), respectively. GOI committed Rs. 50,000 Crores for seven years under JNNURM. Under the Mission, an investment close to Rs. 1,00,000 Crores is planned for the period 2005 – 12, to be pooled by Central Government, State Governments and Urban Local Bodies (ULBs).

The JNNURM provided support for allocation of substantial central financial assistance to cities for infrastructure, housing development and capacity development. It also specified a list of governance & reforms to be undertaken by States and ULBs as conditions for the financial assistance.

A total of 23 reforms are envisaged for JNNURM under two heads — mandatory and optional. The mandatory section contains e-governance, municipal accounting, property tax, rationalization of stamp duty, community participation law, public disclosure law, among others. The optional category includes reforms in introducing computerized registration of land and property, encouraging Public-Private Partnership (PPP) projects, revision of by-laws to make rainwater harvesting mandatory, reuse of wastewater, etc. The assistance under the programme is provided after approval of City Development Plans and signing of Memorandum of Agreements (MoAs) for reforms.

Peer Experience and Reflective Learning Programme

“Peer Experience and Reflective Learning” (PEARL) is an initiative under JNNURM to support cities to actively pursue activities in implementation of the projects and reforms.

The objective of PEARL is to create manageable networks between JNNURM cities for cross learning and knowledge sharing.

The PEARL Initiative was launched on 31st January 2007 at Hyderabad and five Groups/Networks amongst JNNURM cities having similar socio-economic profile, complexities of urban problems and issues, size and urban growth patterns, along with natural affinity to peer pair were formed. Knowledge Managers (KMs) and Network Conveners for each group were identified.

Progress So Far

This programme has achieved the following key milestones:

- Two National and three Group Workshops have been held in New Delhi, Madurai, Hyderabad and Ahmedabad.

- PEARL website (India Urban Portal – www.indiaurbanportal.in) is already operational and linked with JNNURM website. The website covers all mission cities under JNNURM and other non-JNNURM cities. Updates on best practices in projects, reforms (central, state and ULBs) and innovations etc. are regularly updated in the website. Monthly hit of 1,00,000 in February 2010 is being reached. Options on developing new Central Management System (CMS) for the website is already under process and soon will be online (Annexure 1).
Documentation of best practices in planning and implementation of urban infrastructure projects, reforms, innovations, among others is in progress and is disseminated for cross learning among cities. The first and second best practices reports have been published and disseminated among important stakeholders. Many ULBs and Institutions have already shown interest and have been found suitable for documenting best practices report.

“PEARL Update” is Newsletter of PEARL. Four Issues in English and three issues in Hindi of the Newsletter have been published and circulated.

Other Activities

- The Cities Alliance (CA) is providing support to PEARL through Knowledge Network Support Unit (KNSU). The objectives of the KNSU are:
  - Assess knowledge needs of the network
  - Capacity building of cities to implement reforms and projects
  - Develop the network for horizontal learning
  - Link with national and international networks
  - Provide inputs for national urban strategy.

- USAID, DFID, Water and Sanitation Program (WSP), ADB, World Bank Institute (WBI) have agreed to provide support to PEARL.

Documentation of Best Practices: Volume 3

State Governments and ULBs have initiated reform processes to improve the level of financial sustainability, urban governance and service delivery. These success stories are being encouraged by the MoUD through various initiatives like the National Urban Water Awards and the JNNURM Awards to the Cities. These urban initiatives are also being documented for horizontal learning among cities.

The first best practices report “Documentation of Best Practices” Volume 1, under PEARL, has been published and disseminated among important stakeholders. The select Best Practices included in the first document include a cross-section of categories such as Sectors/ Services (Water Supply, Solid Waste Management, Sewerage/ Drainage, Roads/ Flyovers, and Public Transport System), Urban Reforms, PPP, Urban Poverty, Disaster Management and Environment (Annexure 2).

The second best practices report was a tribute to the successful achievements made by the Mission Cities in achieving the goals, on the eve of the fourth anniversary year of JNNURM. The motivation has been to focus on Best Practices in Urban Reforms at State and City Level. This included case studies from State level (Karnataka, Andhra Pradesh, Orissa, and Tripura) to ULB levels (Ahmedabad, Surat, Pimpri Chinchwad, Bangalore, Hyderabad, Kanpur and Pune) to cover optimum level of convergence and synergy from JNNURM cities. Some of the case studies have also been taken up from other cities, which makes this documentation much more enriched in achieving the desired goal of PEARL (Annexure 3).

This third best practices report is another stepping stone in the process. This document has covered the success stories of various state ULBs from Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, Orissa, Punjab, Uttar Pradesh and West Bengal. These are select Best Practices that are structured in the standard format as developed under PEARL (Annexure 4). This covers a brief summary, key dates, situation before, the new approach, strategy to develop the initiative, the process, results achieved, sustainability, lessons learnt, recognition and replicability.
WATER SUPPLY
Title of Best Practice:
**Water Supply and Sewerage Project, Salt Lake (Sector-V):**
A PPP Initiative under JNNURM

State/City: West Bengal – Kolkata  
BP Code: SSS-WS-3##-3065-2310

### Previous Status

Sector-V of Salt Lake is the Information Technology hub of West Bengal. The Government of West Bengal (GoWB) has established a separate industrial township authority called Naba Diganta Industrial Township Authority (NDITA) for Sector-V, Salt Lake. Initially, there were no organized water supply and sewerage systems in the township. Thus, the industrial units in Sector-V had to depend on ground-water based water supply and on-site sanitation at their own costs. GoWB proposed to dispense with indiscriminate extraction of underground water to prevent environmental hazards.

*Fig.1: Riverside Master Plan - Kolkata*

Accordingly, GoWB authorized Kolkata Metropolitan Development Authority (KMDA) to prepare a design and concept plan for improvement of infrastructure in the command area. KMDA had drawn up a comprehensive plan for development of basic infrastructure and services for the command area. The plan inter alia, provided for the development of an underground network of water supply and sewerage system in the area.

### New Approach

In order to provide a healthy environment, KMDA planned combined Water Supply-cum-Sewerage Project for the entire township on Build-Operate-Transfer (BOT) basis. The implementation and management of the project was to be given over to a competitively selected private sector entity for a period of 30 years initially and renewable for another 30 years.

NDITA along with KMDA, invited bids from private sector entities / consortium of private sector entities for a project comprising of – A) laying of a dedicated main from the existing underground reservoir at Sector – I, Salt Lake to an underground reservoir to be constructed at a designated location in Sector– V; B) laying of water supply pipeline network in Sector – V and delivery of water to all premises in Sector – V by running and managing the system, against levy of combined water and sewerage charges. The Project included -

- construction of a Sewerage Treatment Plant (STP),
- laying down the entire sewerage pipeline network within Sector – V so as to cover the command area and
- operate and maintain (O&M) this entire installed facility for a period of thirty years after construction of this installation against payment of combined water and sewerage charges by the consumer.

It was also proposed to extend this period for another thirty years by mutual consent of the Parties.

### Implementation Strategies

Pursuant to the above, NDITA invited proposals through a transparent 2-stage competitive bidding route from bidders to select a strategic partner for implementing the Project on BOT basis on July 3, 2006. Four among the eighteen
interested bidders responded with an expression of interest and techno-commercial proposal which was subjected to a technical evaluation. The financial bids of technically qualified bidders were opened.

**Fig.2: Inaugural Ceremony of the Project at Salt Lake (Sector V)**

After evaluating the proposals received, KMDA accepted the proposal submitted by the winning Joint Venture Consortium of JUSCO-VOLTAS, both Tata Enterprise Companies, as the preferred bidder. The operation and maintenance agreement for the project was signed for a period of 30 years by the bidder. Predetermined rates for generation of bills and collection of payment from consumers were set. Some of the other salient features of the project are given below:

**The Bidding Process**

KMDA devised the terms and conditions of bidding prior to inviting competitive bid, such as

- Fixation of eligibility criteria for the applicant bidders in terms of past experience in the related field, net worth, annual turnover etc.
- Setting the cut-off mark (60 on a scale of 1 – 100) that a bidder has to obtain on technical bid evaluation to be considered as qualified technically.
- Deciding on the financial parameter (lowest water-cum-sewerage charges per kl) for selection of one from amongst the technically qualified bidder.
- Determining the process of evaluation – technical evaluation and marking of bids by a team of independent experts including experts from outside KMDA.
- Invitation of bids from prospective private sector entities (developers/BOT operators) through insertion in leading national dailies and KMDA website.

**Water Supply Project**

The steps involved in executing the project activities were:

- A half-acre plot was made available for a 1-mg capacity elevated reservoir at an identified location within Sector-V.
- A dedicated main of 750m in diameter from the source near Central Park to the elevated reservoir in Sector-V over length of about 3 km was constructed.
- An Underground Reservoir near Indira Bhavan was established for storage and stable supply through pumping.
- Branch lines along individual roads within Sector-V and such lines were connected to the dedicated main.
- Industrial premises to get connection from the piped network (to be created) to draw treated surface water.
- Water Supply Project - Part I and Part II, was sanctioned by the Central Sanctioning and Monitoring Committee (CSMC), JNNURM
- Project execution had started in March, 2008.

**Fig.3: Execution of the water supply project at Salt Lake (Sector – V)**

**Sewerage Project**

The steps involved in this project were –

- About 10000 metre length of sanitary sewer line network was laid within Sector-V.
- The trunk sewer will be terminated through lifting/ pumping station (of 4 mid) to the STP that shall be located near Munshir Bhery or any other suitable places.
Connecting all premises to sewer network.

The suggested sewerage treatment methodology was based on minimum requirement of land. Extended aerobic system, entirely aerobic, omitting primary settling and anaerobic digestion was recommended.

**Fig. 4: Construction of STP at Munshir Bhery**

- The percentage of effluent Biological Oxygen Demand (BOD) may be maximum, up to 50mg/l.
- Land requirement for 7mld capacity STP, including electric substation, laboratory, quartered will be around 100 meter x 60 meter i.e. 1.5 acres.
- About 20% of treated sewerage to be recycled for reuse.

**Concessions**

As NDITA is the industrial township authority for the Command Area, it entered into an agreement with the consortium partners through a Special Purpose Vehicle (SPV) – Naba Dignata Water Management Company Ltd. for the project thereby, authorizing the Consortium to

- Develop, design, finance, manage, administer, operate and maintain the Project by the Consortium itself or through Contractors.
- Determine, demand, retain and appropriate, enforce and revise the User Charges in accordance with the terms of the development agreement, viz,
  - Variation in taxes, charges, cess, duties etc. excepting direct taxes payable by SPV.
  - Tariff increase @10% every 5 years.

- Power cost escalation >8% proportionately passed on to consumers.
- Variation in the input cost (@ Rs.5/- per KL) at which bulk water is supplied by NDITA to the selected bidder.

- Authorize the operator the collection of one time connection charge at Rs.10/- per sq.ft of built-up-area of plot per connection.

- Ensure that extraction of ground water is completely banned in the command area after the operator is in a position to offer delivery of water to the consumers so as to enable successful implementation of the Project.

- Provide the land at a subsidized lease fee.

The Authority also provided certain concessions to the Consortium –

- NDITA shall make treated water available from the Kolkata Municipal Corporation (KMC) network to JUSCO @ Rs.5.00 per KL, whereas KMC normally charges Rs.15.00 per KL for bulk non-domestic supply.

- Making land available for construction of pumping station, elevated reservoir and STP free of cost.

- Allowing JUSCO to levy ‘water-cum-sewerage charges’ @ Rs. 25.00 per KL of water supplied (Rs.15 for water supply and Rs.10 for sewerage) to the premises connected to water supply network.

- Capital subsidy to JUSCO to the extent of 35% of the capital cost (estimated at Rs.63 crores) of the project through JNNURM.

- NDITA further grants to JUDCO-VOLTAS Consortium the right to collect user charges equivalent to 50% of the demand charges as sewerage charges in the event of default of the particular consumer to pay the combined service charges for a period as prescribed by applicable law.

- NDITA further authorizes JUSCO-VOLTAS Consortium to collect six months of demand charges in advance by way of revolving Bank Guarantee.

**Project Monitoring**

NDITA shall monitor the project at the construction phase as well as during the operation and maintenance phase by JUSCO to
determine whether it is being implemented and operated and maintained in accordance with the provisions of the Development Agreement and Good Industry Practice. JUSCO shall provide all data and information in reporting formats with notes on progress of work. NDITA may involve the Performance Security for the purpose.

**Fig.5: Construction of piped water network to draw treated surface water at Salt Lake**

Project Financials

The combined water and sewage tariff being the main determinant towards acceptance of the proposed project needed the State Governments approval. Financial analysis was carried out to check financial feasibility of the project and capacity to meet 100% cost of the O & M expenditures as well as cost of capital introduced by the BOT operator. Through a transparent negotiation process a water tariff of Rs.25/- per KL was mutually agreed upon by all the stakeholders and the project reached financial closure in November 2007.

**Table 1: Cost Break-up of the Sewerage Project, Part II at Salt Lake**

<table>
<thead>
<tr>
<th>Sewerage System, Part –II: Rs. 3407.15 Lakh</th>
<th>Components</th>
<th>Rs. Lakh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Network</td>
<td>1716.33</td>
<td></td>
</tr>
<tr>
<td>Intermediate Pumping Stations</td>
<td>320.62</td>
<td></td>
</tr>
<tr>
<td>Terminal Pumping Station</td>
<td>355.34</td>
<td></td>
</tr>
<tr>
<td>Sewage Treatment Plant</td>
<td>664.38</td>
<td></td>
</tr>
<tr>
<td>Piling</td>
<td>183.95</td>
<td></td>
</tr>
<tr>
<td>Chlorination Arrangement</td>
<td>51.31</td>
<td></td>
</tr>
<tr>
<td>Contingencies @ 3%</td>
<td>98.76</td>
<td></td>
</tr>
<tr>
<td>Adm. Charges @ 0.5%</td>
<td>16.46</td>
<td></td>
</tr>
</tbody>
</table>

**Source: KMDA**

**Table 2: Programme for Development of Sewerage System, KMDA**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sewerage Network</td>
<td>15.89 km</td>
<td>01/10/08</td>
<td>30/12/09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Manholes</td>
<td>700 Nos.</td>
<td>25/09/08</td>
<td>30/12/09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewerage Pumping Stations</td>
<td>1 Package</td>
<td>15/10/09</td>
<td>19/11/09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>STP</td>
<td>1 Package</td>
<td>25/09/08</td>
<td>30/12/09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source: KMDA**
**Impact of the Project**

The Project is under execution and is slated to be eastern India’s first BOT project by July 2010. When completed, it would demonstrate a successful PPP model in the country which most certainly will help to open up the water sector to private investment and ensure better service delivery.

**Table 3: Project Summary**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
<td>Rs.67.80 crores</td>
</tr>
<tr>
<td>G&amp;I Grant under: JnNURM (35%)</td>
<td>Rs.23.73 crores</td>
</tr>
<tr>
<td>BOOT Operator’s: Investment (65%)</td>
<td>Rs.44.07 crores</td>
</tr>
<tr>
<td>Construction Period</td>
<td>18 Months</td>
</tr>
<tr>
<td>O&amp;M Period</td>
<td>30 years</td>
</tr>
<tr>
<td>Water tariff</td>
<td>Rs.25 / KL</td>
</tr>
<tr>
<td>IRR</td>
<td>14.6% at Year 30</td>
</tr>
</tbody>
</table>

*Source: KMDA*

**Contact for Details:**

Shri. Vivek Bharadwaj, IAS  
Chief Executive Officer,  
Kolkata Metropolitan Development Authority (KMDA)  
Prashasan Bhavan  
Block-DD-1, Sector-I, Salt Lake,  
Kolkata-700 064  
Ph: 033-2358-0019,  
Fax: 033-2359-7881  
E-mail: ceokmda@vsnl.net
Title of Best Practice:
Bore Well Automation

City: Faridabad, Haryana
BP Code: SSS-WS-3##-0917-0109

Previous Status

Meeting the growing demand of public with existing resources, untimely and unreliable supply of drinking water, faith of consumers / residents, requirement of efficient water management system were many problems that needed a permanent solution by the Faridabad Municipal Corporation (FMC) in Haryana. One of the answers to all the above was introduction of latest and reliable technology for water supply pumping operations.

The New Approach

FMC along with S. A. S. Servizio Pvt. Ltd. (formally known as RAMSONS) became partners-in-progress by investing in and providing first-rate infrastructure facilities to enable efficient water management system in Faridabad and surrounding areas.

A high technology bore well automation system was installed that could be operated, maintained by client infrastructure facilities using scientific maintenance methodology to protect investments at optimum operating and maintenance cost. The new system has the following features:

- Programmable logic controller to maintain automatic operation of remote inaccessible pumping stations.
- Real time starting and stopping of pumps.
- Monitoring of current and voltage.
- Monitoring of pressure, discharge and quality of water.
- Reporting of breakdown by remote Programmable Logic Controllers (PLCs) to central station using existing telephone network.
- Monitoring of remote pumping stations from central location.
- Central station can get information from remote on request.
- Maintaining minimum log of parameters.
- Maintaining fault summery for last 5 faults.
- History of the reported faults, total water production, etc.

Fig.7: the Bore well Automation System, Faridabad

Implementation Strategies

The bore well automation system was installed in two stations:

A) Central Station: This station has the following infrastructures:

- Remote pump monitoring.
- Monitoring current, voltage, on/off position.
- Fault analysis and fault rectification.
- Data storage, monitoring and analysis.

B) Remote Station: This station has the following Infrastructure:

- Pump Starting/Stopping on predefined time either in the morning or afternoon or evening or time carry forward in case of power failure.
- Monitoring current, voltage, on/off position.
- Fault reporting & rectification.
- 24 hours help lines complaint redressal.
The implementation strategy adopted for the bore well automation system was:

- Each pump has fully automatic star delta starter with Miniature Circuit Breaker (MCB) for short circuit protection.
- Starters fitted with potential free contact from where an Environment Monitor or PLC can be wired.
- PLC reading voltage, current and the status (on/off) of the pump can be monitored.
- PLC connected through modem with a dedicated remote / wireless telecommunication system was also provided.
- PLC having compatible software reads programmed parameters of pump and dials automatically in case of any deviation to the Central Control Station (CCS).
- In case of non-function of pump, PLC sends the signals to CCS through its automatic dialing facility to programmed wireless telecommunication communicating reason for tripping the pump.
- The latest position can be transmitted through Television Channels to the public in large.

**Achievements/ Results**

- Operation of all tube wells as per scheduled time.
- Maintenance of tube wells in less than 24 hours to restore smooth water supply.
- Centralized Consumer Cell (CCC) with round the clock service for lodging complaint over telephone and enquire latest position of water supply.
- Automation and monitoring provides better control.
- Round the clock doorstep services to the consumer.
- Ensuring regular supply of water every day.
- CCC where all tube-wells can be monitored for their present status as to on/off, voltage, current, timings of running, etc.
- Faster information with-respect-to water supply line that are damaged, no power, failure of bore-well, redevelopment etc.
- Less than half of the operational cost to the Organization. The cost reduction is more than 60% as compared to the earlier cost of FMC.
- Minimize breakdown times (higher reliability) and enhance performance of water supply systems.
- Well-organized operation and maintenance schedules.
- Monitoring the entire Water Supply Distribution network: 1) Remote diagnostics and trouble shooting, 2) Online messages and alarms, 3) Bi-directional data communication, 4) Process values archiving for trends and 5) System scalability with-respect-to additions and future technology.

**Lessons Learnt**

- Reduced cost of maintenance.
- Investment partners giving advantage of information technology to public in large.
- Providing sense of security by investing in the project and have long term relationship.
- Serving through a team of professionals having expertise ranging from technical, commercial, specific project administration, marketing, public relations, liasoning and general administration helps in better operation, maintenance system and also provides personalized and experienced services.
- 24 hours help line and dedicated 24 hours staff for services with smile.

**Contact for Details:**

Shri. C. R. Rana, I.A.S  
Municipal Commissioner  
Faridabad Municipal Corporation,  
Near B.K. Hospital,  
Faridabad – 121001  
Haryana  
Office: 2416464-65
Solid Waste Management

National Institute of Urban Affairs (NIUA), New Delhi
Title of Best Practice:  
Solid Waste Management through Bio-Composting in Puri

State/City: Orissa, Puri  
BP Code: SSS-SW-3###-2141-0310

Previous Status

Located on the East Coast of India overlooking the Bay of Bengal, Puri is one of the fastest growing tourist destinations of India. The city covers an area of 16.84 sq km with a population of 1, 57,776 (2001 Census). The city attracts over millions plus tourists into the city.

In 1998, under the Indo-Norwegian Development Corporation support and with the active participation of the Government of Orissa, a Bio-Compost Plant was set up in the holy town of Puri. This initiative assumes importance since Puri is a popular tourist centre for national and international tourists. A private firm manages the plant. The project is also an example of feasibility of Public-Private Partnership (PPP) in the development of infrastructure for the city.

The Heritage City of Puri, initiated an innovative approach to scientifically dispose of the municipal waste. Today through this initiative the Municipality is not only able to safely dispose of waste but also gain revenue from operators. This model is very unique in India.

New Approach

Puri is divided into 30 wards. About 40% of city’s population lives in slums. The estimated floating population in the city is around 2 lakh. On an average, Puri Municipality (PM) spends around Rs 15, 00,000 every year towards solid waste management.

Location and importance of the city, made waste management more challenging with limited resources and unsuitable for land filling. The situation was such that even after spending big lump sum amount the city civic authority was unable to dispose of the waste. Puri is a religious town that also hosts a number of festivals including thirteen big festivals such as the Jagannath festival, car festival, etc. which attracts a huge floating population that adds more waste into the stream. Therefore, PM is responsible for removal of the solid waste from the city.

Fig.8: Situation before Implementation of Project at Puri
Implementation Strategies

In nineties, Orissa State Government felt the need of improving the solid waste management system within the town of Puri, so that the town should remain clean and hygienic for the tourists and the local citizens. Indian waste contains a significant amount of organic matter and hence bio-composting holds a viable option in compare to any other options. The project involved windrow dumping of the garbage which is biologically treated with Bacterial Powder. This treated garbage through different levels of screening is converted into organic manure. The conversion ratio of garbage to manure is 20%. The key to this project for any organisation is to sell the final product (organic manure).

Fig.9: Pictorial depiction of Bio-composting Procedure, Puri

Achievements / Results

- PM became the first city in Orissa to have arrangements for disposal of waste in scientific manner.
- PM has been able to recover a portion of its expenditure incurred in solid waste management from the royalty that it gets on the sale of compost.
- As the city waste is now converted into compost, pressure on the landfill site is considerably decreased.

Lessons learned

In 1998, PM set up a compost plant for processing of solid waste. This project is helping to process the waste and provide income to the Municipality.

Table 4: Royalty Received (2004-2008), PM

<table>
<thead>
<tr>
<th>Year</th>
<th>Collection</th>
<th>Production</th>
<th>Leased Value</th>
<th>Royalty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in Rs.</td>
<td>in Mt.</td>
<td>in Rs.</td>
<td>in Rs.</td>
</tr>
<tr>
<td>2007-08</td>
<td>6252</td>
<td>1130</td>
<td>650000</td>
<td>92667</td>
</tr>
<tr>
<td>2006-07</td>
<td>6582</td>
<td>1038</td>
<td>650000</td>
<td>104109</td>
</tr>
<tr>
<td>2005-06</td>
<td>6309</td>
<td>1399</td>
<td>650000</td>
<td>11238</td>
</tr>
<tr>
<td>2004-05</td>
<td>8111</td>
<td>752</td>
<td>650000</td>
<td>67250</td>
</tr>
</tbody>
</table>

Source: CMA, Orissa

The present level of supply of waste to the compost plant is 40 tons per day. The compost plant is running successfully since 1998. Erection of the bio-compost plant involved a construction cost of Rs. 1.5 crore. PM arranged land for the bio-compost plant. The project was funded by the Indo–Norwegian Development Corporation under Orissa Environment Project of Forest and Environment Department. The intake capacity of the compost plant is 100 tons per day.

Sustainability

The plant is managed by a private agency that saves municipality’s expenditure on operation and maintenance of the plant. The annual lease of Rs. 5 lakh and royalty (5%) on the amount of compost sold would recover the initial costs incurred on construction of the plant. There has been an increase in demand for compost by urban residents and agricultural units particularly in Horticulture and Tea Gardens. PM may take steps to institutionalize the door-to-door waste collection. This will move the city towards sustainable SWM process.
Replcibility

These types of plants are initial capital investment base. However, with proper partnership with civic bodies, funds can be raised through PPP mode or the Urban Local Body itself can invest on the infrastructure.

Contact for Details:

Mr. Fakir Charan Satapathy, I.A.S
Collector & District Magistrate
Puri Municipality
Puri-752001
Phone: 91-6752-222034, 224257
Fax - 223939
e-mail: dmpuri@ori.nic.in

Mr. Piyush Ranjan Rout
Executive Director
City Managers Association Orissa,
C/o Vice Chairman, Bhubaneswar Development Authority,
Sachivalaya Marg, Bhubaneswar - 751001,
Orissa, India
Phone: +91-674-2395614
Fax: +91-674-2390633
Mobile: +91-9437176717
E-mail: cmao@bsnl.in or cma.orissa@gmail.com
Title of Best Practice:
Improved Collection and Transportation of Municipal Solid Waste through Public-Private Partnership in Amritsar

State/City: Amritsar, Punjab
BP Code: SSS-SW-3##-2343-0310

Previous Status

Amritsar metropolitan town was having the population of 10.11 Lakhs in 2001. The Sanitation Zones of 4, 5, 6 and 7 have been selected for the purpose of implementation of collection and transportation of municipal solid waste. The agreement was signed on October 8, 2008 for O & M of the project facility.

There was no door-to-door collection of waste and heaps of garbage was seen in most of the localities and sanitation zones before the implementation of the programme. The sanitary conditions were very poor due to lack of unorganized system of collection and transportation. The collection points were not earmarked and there were inadequate dustbins and collection machinery. The throwing of garbage in open areas was a common practice. The sweepers used to collect the waste in the handcarts from the streets and open areas to put the same in containers which were also inadequate and in dilapidated conditions. This would create unhygienic and dirty environment in the streets, localities, markets and open areas. The rag pickers/ garbage collectors and stray animals would create filthy environment around the waste containers and collection points. The transportation facilities were inadequate and open transportation of waste would create foul smell and filthy environment on the roads/ routs of municipal vehicles.

The door-to-door collection of garbage, safe/ hygienic and efficient transportation of solid waste were the major issues faced by the Municipal Corporation of Amritsar (MCA). It became necessary to initiate waste collection/ management and transportation activities to comply with the Municipal Solid Waste Management (SWM) and Handling Rules 2000 as MCA was lagging behind in compliance. Since implementation of the Rules required huge resources and MCA was not having the same to purchase the machinery and upgrade infrastructure, it became essential to outsource the tasks of collection and transportation of waste to a competent private operator. MCA was also facing a Public Interest Litigation (PIL) in the Punjab and Haryana High Court and the reply comprised of an action plan and specific compliance schedule was submitted to the Court by the MCA in January 2009.

New Approach

The beginning of the project goes back to March 2006 when MCA passed a resolution to set up a solid waste management plant and in December 2007 it passed another resolution to implement the said project in two phases. MCA accorded its approval for appointing a consultant to prepare a Detailed Project Report (DPR). In June 2008 and the Finance and Contract Committee (FCC) accorded its approval for appointing Dr S.R. Maley on this project. In July 2008, MCA published expression of interest in different news papers for taking up the works under first phase of the project i.e., collection, segregation, storage and transportation of municipal solid waste. FCC of MCA through a resolution in September 2008 accorded its approval to allot the work of first phase to M/s. Antony Waste Handling Cell, Pvt Ltd under Municipal Solid Waste Management and Handling Rules 2000. The agreement between the MCA and the company was signed in October 2008 and the work was started in February 2009.

The DPR for the setting up of the municipal solid waste management plant costing Rs 72.49 crore was approved by the Government of India on February 21, 2009. The M/s. Antony Waste Handling Cell, Pvt Ltd under Municipal Solid Waste Management and Handling Rules 2000. The agreement between the MCA and the company was signed in October 2008 and the work was started in February 2009. The DPR for the setting up of the municipal solid waste management plant costing Rs 72.49 crore was approved by the Government of India on February 21, 2009. The M/s. Antony Waste Handling Cell, Pvt Ltd under Municipal Solid Waste Management and Handling Rules 2000. The agreement between the MCA and the company was signed in October 2008 and the work was started in February 2009.
vest with the municipal body. MCA pays the Contractor Rs 500/- tones per day of waste transported using the project facilities provided in the city for the said project as per the operation plan approved by MCA. This will be revised from second year onwards @ 3% for first three years and @5% for the remaining years.

Roles and obligations of all the stakeholders have been defined in the agreement. It is the responsibility of the Contractor to ensure source segregation of waste and transport the same to processing facility. The Contractor was asked to provide adequate number of vehicles, infrastructure, materials, services and manpower to carry SWM operations efficiently. The Contractor has deployed 49 Tata Ace, 7 Compactors, 2 Tippers, 5 Dumper Placers, and 1 JCB along with 380 bins in the selected zones. In addition existing machinery and manpower of the MCA (sanitation wing) should be used by the operator “as is where is” basis and the expenditure on aforesaid would be borne by the operator. The MCA monitors/ supervises the day to day operations of the Contractor who has provided a performance guarantee and a security deposit. The Contractor also submits a quarterly operation plan for its SWM collection and transportation requirements approved by municipal body. The Contractor has recruited trained and skilled manpower for door to door collection of waste (excluding bio medical waste) and its transportation. Municipal sanitary workers are responsible for putting the garbage in the bins placed by the Contractor. There is a provision of washing of bins for providing hygienic environment to the citizens. Two-way wireless communication between the supervisors/ drivers and control room of MCA has also been provided by the Contractor. A complaint redressal mechanism with a toll free number has been established to improve the delivery of services. The Contractor is entitled to use the walls of the project facility or any other area in the project facility for advertisement after approval of space and rate from the municipality. Contractor will collect and retain 50% of the consideration and remit the balance to MCA. The agreement provides involvement of community, NGOs and rag pickers for improving sanitary conditions and establishing a culture of litter free streets and neighborhoods. The Contractor has to meet all the liabilities of the staff involved for the purpose.

The Contractor has to ensure collection of garbage from residential areas and markets by 11.00 AM every day and from markets again by 6.00 PM. The Contractor has to provide information and assistance to the municipal body/ government stakeholders to enable them to discharge their responsibilities under the agreement. There is a provision of penalties for Contractor’s failing in meeting various obligations.

Goals of the Project

The major goal of the best practice is to comply with the Solid Waste Management and Handling Rules 2000 and to improve sanitary conditions to provide clean environment to the citizens of the city. Other goals include improvement of hygiene, segregated/ door to door collection of garbage, timely collection of waste, controlling the foul smell emanating from the bins, checking the menace of stray animals.

Fig.10: SWM Collection and Transportation at Amritsar

Implementation Strategies

The Municipal Councilors were taken in to confidence that it was need of the hour to improve sanitary conditions in the city. The municipal house/ finance and contract committee cleared the proposal of project unanimously as it was a matter of great concern.
of the public. The PPP model was adopted to enhance the municipal efficiency in collection and transportation of the waste. The continued dialogue / liaison with the sanitation unions to resolve the issues of opposition of contracting out of waste collection and transportation of municipal waste and employment to some of the acquaintances/ relatives of the existing staff who had gone on strike to oppose the PPP project diluted their opposition.

**Fig.11: Collection of Solid Waste, Amritsar**

The major activities under the project included:

- Provision of adequate machinery, equipments and staff for the project.
- Upgradation of existing SWM infrastructure.
- Door to door collection of municipal solid waste.
- Segregation of waste at source.
- Collection and transportation of waste from residential areas and markets.

**Fig.12: Transportation of Solid Waste at Amritsar**

- Vehicles have alarm system for house to house collection.
- Primary and secondary storage in bins.
- Prohibition of waste littering and arbitrary disposal of waste.
- Public awareness for better sanitation/waste management.
- Abolition of fixed masonry bins and dhalao’s kuda ghars.
- Provision of mobile covered bins of appropriate design.
- Provision of synchronized storage bins and transportation mechanism.
- Uniforms for the safai sewaks, drivers and supervisors etc.
- Transportation of waste through high capacity, covered vehicles.
- Contract period for seven years keeping in mind the age of vehicles and equipments.
- Provision of centralized complaint redressal system by the Contractor.
- Arrangement for processing facility with multiple product recovery (work is in progress).

MCA has played vital role by formalizing and approving the project. It appointed a consultant to prepare a DPR for the project. Inviting tenders, FCC shortlisted the same and awarding the project to the company, for implementing the activities of the first phase i.e., waste collection and transportation. Activities of second phase i.e., waste processing was awarded to AKC Developers. The tasks of first phase are going on successfully but tasks of second phase are yet to be completed. MCA is playing the role of enabler, facilitator and regulator of the activities. Street sanitation is still the responsibility of the MCA which executes the work through its own sanitary workers.

M/S AKC Developers has yet to install the plant. The possession of the land will be given to it after necessary approvals from Punjab Pollution Control Board. The financial partners for the project are MCA, Government of Punjab (GOP) and Government of India (GOI) which are likely to contribute 30%, 20% and 50% respectively. The total cost of the project was Rs 72.5 crore. The Government of Punjab has already contributed Rs 20 crore which is higher than the expected share. Out of the total project cost, Rs 4.53 crore has been spent on collection and transportation activities carried out by the Antony Waste Handling Cell and Rs 2.40 crore has been paid to the AKC Developers, against
bank guarantee to start the work of the processing plant. MCA and GOI have yet to give their share.

MCA, citizens, Antony Waste Handling Cell, the AKC Developers, GOP and GOI are main stakeholders. The DPR of municipal solid waste management plant costing Rs 72.49 crore has already been approved under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in February 2009.

**Fig.13: Disposal of Solid Waste at Amritsar**

Two way wireless communication between the supervisors/ drivers and control room of MCA has also been provided by the Contractor and is responsible for addressing citizen’s complaints through the toll free number. MCA has also provided a computerized toll free number to register complaints. The mobile phones have also been given to all the drivers responsible for door-to-door collection of garbage and their supervisors. MCA has established an enquiry office recently to further improve the delivery of municipal services and to make the officers accountable.

**Challenges/Constraints Encountered**

The major challenge was posed by the sanitation unions who had called strike to oppose the decision of MCA to contract out collection and transportation of municipal waste. Weighing of the waste was an important issue but it was resolved by installation of weighing machine by the contractor at the site provided by MCA. The weight bridge slip provided by the Contractor is cross-checked at MCA’s weighing machine at the landfill site.

The municipal house supported the idea as it was in the interest of common citizens. But major challenge is the implementation of user charges for recovering full O&M cost of the project. As per the scope of the services private operator will be responsible for door to door collection of user charges @ Rs 50, 30 and 20 per month from the commercial and residential premises. The charges to be collected will have to be deposited with the MCA by 10th of every month. However this is yet to be implemented.

**Outcomes**

- Improved door to door collection of municipal solid waste.
- Efficient, hygienically safe transportation of waste to the landfill site.
- Improvement in the environmental conditions in the selected zones.
- Negligible littering in the streets due to awareness of the citizens, adequate bins, timely and effective collection of waste from the source and its regular transportation.
- Stray animals are not seen around the garbage containers.
- No foul smell near the containers which are rather attractive/ colorful.
- Minimization of manual handling of waste in collection and transportation.
- Traditional containers, fixed masonry bins and dhalao’s kuda ghars replaced by modern bins.
- Unemployed drivers/ sanitary workers employed by the Contractor for sanitation.
- Abolition of practice of transportation of waste in open tractors/ trolleys.
- Greater awareness among citizens about cleanliness/ waste management.
- Reduction in expenditure on improving the waste collection/ transportation under SWM Rules.
To further improve the solid waste management in Amritsar under the SWM Rules 2000 the MCA approved installation of waste processing/treatment plant and 21 Acre land has to be leased to AKC Developers Pvt Ltd @ Re 1/ sq mtr/ year for 30 years at Bhagtanwala for the plant.

Achievements / Results

The conducive political environment is an important condition for success of such projects. The political and administrative will and firmness have been crucial for success of the initiatives in Amritsar. The MCA passed resolution for PPP of waste management unanimously. Bringing the opposing/ striking sanitary unions at the dialogue table to resolve the issues relating to contracting out of sanitary work was also an important milestone. Availability of funds under JNNURM was another most important factor behind conceptualization, implementation and continuity of the project activities.

Improvement in environmental conditions in the selected zones through door to door collection of garbage, removal road side heaps of garbage, safe handling and hygienic transportation of waste is garnering support of political executives and citizens and will be critical conditions for continuity of the project.

Sustainability

The waste collection and transportation is capital intensive activity due to involvement of huge machinery, manpower and day-to-day operations. The initial total project cost is Rs. 72.49 crore. MCA has been paying the company @ Rs 500 per metric ton and the amount will increase as per the schedule agreed upon and mention earlier.

User Charges are must for sustaining the activities. MCA has agreed to impose the user charges @ Rs 50, 30 and 20 from commercial and residential premises but collection of the same has not started yet. The transfer of 50% royalty from the sale of manure to be prepared by the AKC Developers will also financially support MCA. The Corporation will also get royalty from sale of Refuse Derived Fuel (RDF) and compost by AKC.

Impact of the Project

Political will to replicate the practice is very crucial. Poor sanitary conditions, growing quantum of waste, poor waste collection and transportation practices followed by municipalities and inadequate resources on their disposal are some important conditions along with availability of funds, technology and specialized private agencies willing to take up the tasks. A detailed study of waste management in the city is required to go for the case/ condition specific solutions.

MCA will be happy to share DPR. The municipalities or experts are welcome to study the system of waste collection and transportation in Amritsar for replication in other cities.

Contact for Details:

Dr Yogesh Arora
Medical Officer of Health (MoH)
Municipal Corporation, Town Hall,
Amritsar
Office: 0183-2545155/2535499
Residential: 9464436346
Fax: 0183-2545155/0183-2222111
E-mail: cmcasr@gmail.com/admincorp@data.1.in

Mr. Manoj Kumar Teotia,
Assistant Professor (HUDCO Chair),
Centre for Research in Rural & Industrial Development,
Sector 19-A, Madhaya Marg,
Chandigarh 160019
Office: 0091-172-2725406
Mobile: 0091-9417495534
Fax: 0091-172-2725215
E-mail: mkteotia@gmail.com
ROADS / FLYOVERS / OTHERS
Title of Best Practice: 
Automated Parking System in Bangalore City

State/City: Karnataka, Bangalore  
BP Code: SSS-RD-1.1-1424-0509

Previous Status

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

New Approach

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

Implementation Strategies

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

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

How the parking meter works?

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

Project Finance

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

Fig.15: Automated Parking System on Brigade Road in Bangalore

Achievements / Results

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

Sustainability

The automated parking system is technically sustainable as the system is mechanized thus preventing corruption. It maintains data on the number of vehicles versus the amount collected and the duration of time for which the vehicle was parked. The initiative is financially sustainable, even though the capital investment is high. The daily collection, which is done based on the parking rates, has proven to be profitable. For its long-term sustainability, regular maintenance of at least once in 3 months is required. The flexibility of the parking meter machine is that it is solar operated, thus saving electrical energy.

Lessons learned

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

Replicability

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

Contact for Details:

Shri. Bharatil Meena, I.A.S
Commissioner
Bruhat Bengaluru Mahanagara Palike
Narsimha Raja Square Avenue Road
Bangalore 560002
Phone: 080- 22237455 / 22221286
Mobile: +91-9448282772
E-mail: comm@bbmp.gov.in
Title of Best Practice:
PPP Model for Underground Car Parking System, Kolkata

State/City: West Bengal, Kolkata
BP Code: SSS-RD-3##-3065-0310

Previous Status

Central Kolkata, particularly New Market area near the Kolkata Municipal Corporation (KMC), is a very busy commercial zone with narrow streets and roads. Lindsay Street, part of this locality is one of the most congested roads in terms of traffic. The problem was further aggravated by haphazard and unruly parking that led to serious traffic jams. To find a solution to these problems, KMC decided in 2001 to construct the city’s first underground parking system at Lindsay Street. The multi-level underground car parking system was inaugurated in April 2007. The project implemented onBOOT basis benefited KMC, private partners and most of all, car owners and pedestrians. Uniqueness of the project lies in the five direct car lifts for drivers to take their cars to and fro from the parking lot.

Fig.16: Initial Situation at Lindsay Street

![Image](Source: KMC)

New Approach

As an attempt to ease the traffic flow and to address issues of pedestrian’s, KMC constructed a multi-level underground car parking system in April 2007 on a PPP model. KMC was the first in India to introduce computerized off street parking. Under the BOOT system, the PPP has benefited all stakeholders creating a replicable model. The underground parking (with a capacity of 280 cars) near the New Market was inaugurated on 20 April 2007. Another similar project has also been taken up by KMC at Rowdan Street, where above the ground car parking system was inaugurated in Nov 2001. The latter is a three level parking all above the ground. It has been found extremely safe especially for citizens who are going out of station and can leave their car parked in perfect safety. This initiative of the KMC was in collaboration with the Simplex Projects Limited.

Goal of the Project

Goal of the project was to ease the traffic flow and address issues of pedestrian’s particularly in Central Kolkata, near the New Market area, which is a very busy commercial zone with narrow streets and roads.

Implementation strategies

KMC offered the stretch of land along Lindsay Street to the PPP partner, Simplex Project to construct a multilevel parking system including a shopping complex. To implement the project, KMC and the Company entered into a BOOT agreement.

The PPP parking project was conceptualized as a two-part BOOT project with two concession periods - one for the parking system and the other for the commercial complex (both underground). The overland portion was converted into a pedestrian plaza.

There are two levels of basement in the system, of which the upper basement (Level 1) has been utilized for commercial development while the lower basement (Level 2) is exclusively used as a car parking area. This was a double-concession BOOT project.
Fig.17: Vacant space for car parking at Lindsay Street

Source: KMC

Box: PPP BOOT Agreement – Key Features

- BOOT project involves financial spending by the agency on public land on the basis of predefined terms and conditions by both the parties.
- The length of the period of BOOT contract is generally long, 15-30 years sometimes, and this duration is known as the ‘concession period’.
- KMC is the absolute owner of the stretch of land along Lindsay Street opposite New Market, with all underground rights.
- It offered the concessionaire Simplex projects, the right to construct the parking system including the shopping complex at that location.
- The overland portion had been converted into a pedestrian plaza.

UG Level 1: Commercial Development

To make the project self-sustaining and as part of the BOOT arrangement, KMC granted permission to Simplex to construct and lease out the commercial blocks on a long-term basis. Simplex pays the lease rent as well as basic rent. The company collects lease amount from the shop owners, which is used for the upkeep of the commercial premises at level 1. A total of 200 shops are leased out to shopkeepers. Simplex will enter into a lease agreement with the prospective shopkeepers for an initial period of 60 years during which it will collect the lease premium. The company would also collect the parking fee of the said lot during the period of concession and pass on 5% of the gross revenue to KMC.

UG Level 2: Parking Lot

KMC and Simplex Projects entered into a BOOT agreement for 20 years for the parking system for both Lindsay Street and Rawdon Street. The fully computerized parking facility at the underground Level-2 of the Lindsay Street is already operational as it was inaugurated in April 2007. It was also made available for the construction of a commercial complex, in keeping with the ambience of a walkway and pedestrian plaza over ground, the features of which merged with the architectural features of the existing heritage structure. Mostly, glass was used on the structure above the ground level for total visibility of the adjoining New Market façade.

Table 5: Statistics of Automated Car Park in Kolkata

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Topics</th>
<th>New Market</th>
<th>Rawdon Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total number of car parking places</td>
<td>280</td>
<td>213</td>
</tr>
<tr>
<td>2</td>
<td>Area per car (sq.mtr.)</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Area of parking (sq.mtr.)</td>
<td>4000</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td>Average Length (mtr.)</td>
<td>216</td>
<td>198.7</td>
</tr>
<tr>
<td></td>
<td>Average Width (mtr.)</td>
<td>4000</td>
<td>7.3</td>
</tr>
<tr>
<td>4</td>
<td>Total number of floors</td>
<td>(-1)+(-2)</td>
<td>G+(+1)+(+2)</td>
</tr>
<tr>
<td>5</td>
<td>Parking level</td>
<td>(-2) floor</td>
<td>G,+1,+2</td>
</tr>
<tr>
<td>6</td>
<td>Floor Height (mtr.)</td>
<td>3.35</td>
<td>2.75(G level)</td>
</tr>
<tr>
<td></td>
<td>(-1level)</td>
<td>2.6</td>
<td>4.05(+1level)</td>
</tr>
<tr>
<td></td>
<td>(-2level)</td>
<td></td>
<td>4.05(+2level)</td>
</tr>
<tr>
<td>7</td>
<td>No. of Entries</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>No. of Elevators</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: KMC

KMC has allowed the company to impose and collect the parking charges for all the vehicles parked within the system on mutually agreed terms and conditions. Simplex pays the KMC, five per cent of the gross annual revenue earned from parking for the concession period of 20 years. It has been given the right to put up advertisements in the form of show-windows, kiosks and other such formats at no extra cost. It is worthy to note here that, the company would give an extra bonus of 10% to KMC if its revenue is more than the expenses.
To make people use this parking facility, and to decongest the Lindsay Street locality, the KMC has prohibited “on-street parking” in the zone of influence around the system and within a radius of 100 meters. At the expiry of the 20-year concession period, the parking system will be handed over to the KMC. The parking fee is Rs. 10 per hour (with a provision of discount for long-term parking) and is collected by Simplex.

To sustain this project even after the expiry of agreement, the company would prepare an annual O&M contract with KMC and as a part of the annual contract the company would also provide free training to engineers or qualified personnel nominated by KMC to manage and maintain the system.

Outcome of the project

- **Speed of Service Delivery**

  It takes 90 seconds for parking the vehicles by paying the parking fee of Rs. 10 per hour or retrieves it through computerized collection system. An increase in the overall productivity has led to an increase in the revenue collected by the departments. Accurate record keeping (validation is imposed before recording data) is now in order. Data consistency (across locations, vehicles) is maintained. A display board on the ground level shows the preview of the five lift movement for people to identify their vehicle as it is taken down for parking and bought up.

- **Participation**

  In order to address issues such as traffic congestion, and renovation activities without displacing the local inhabitants, the KMC went ahead with the project through partnership that benefited all stakeholders – the KMC, the construction company / contractor, and most of all the car owners and harassed pedestrians all in a most sustainable manner.

- **Decongestion of streets**

  Issue of irregularities in traffic has been resolved and brought relief to pedestrians. The pedestrian
plaza on the ground is a bonus for the people walking along the Lindsay Street and traffic jams have become a thing of the past.

**Achievements and Results**

- 250 parking slots in the underground parking system at Level-2.
- Market complex at Level-1 with 200 shops on lease; the premium goes to the concessionaire as charged by him.
- This is perhaps the first time in India that the two car lifts provide the added convenience to users for taking their cars to underground Level-2 and bring them out. This type of lift saves space by avoiding a meandering underground road.
- KMC collects the basic rent from each of the shop owners at Rs. 25 quarterly per square meter as extra income with no investment.
- The pedestrian plaza on the ground is a bonus for pedestrians.

**Sustainability**

Financial sustainability of the partnership project has been ensured in terms of:

- Parking fees, advertisement rights and premium on shops – gives returns on investment for the concessionaire because of the very nature of the BOOT contract.
- 5% of the parking revenue that KMC gets from Simplex, projected for 20 years generating estimated annual revenue of Rs. 5 lakh for KMC.
- The quarterly basic rent that the KMC gets from each of the shop owners is the return that the KMC gets for giving rights to the BOOT operator for use of its vacant land.

**Lessons learnt**

A PPP model on BOOT basis has many advantages. Over a long concession period, both the BOOT operator and KMC are bound to earn revenues and even profits.

- PPP models of partnership in infrastructure development form the most sustainable approach for a city government that most often has a resource crunch both, in terms of finance and in terms of engineering staff.
- Service provided by a local government can also become an alternative source of additional revenue.
- Underground development can be an alternative where ground level space is scarce, especially in mega cities.
- More importantly, a serious issue of irregularities in traffic has been resolved and brought relief to pedestrians.

**Impact of the project**

This is perhaps the first time in India that the two car lifts are constructed to provide added convenience to users. These lifts also save space by avoiding the otherwise common pattern of underground parking. The pedestrian plaza on the ground is a bonus for the people walking along the Lindsay Street and traffic jams have become a thing of the past. At present 280 cars can be parked in this underground parking facility and it takes only 90 seconds to park a car or retrieve it with this state of the art fully computerized parking technology.

Further, the project benefited all the stakeholders –

- KMC
- The construction company/contractor (also known technically as the concessionaire).
- The car owners.
- The harassed pedestrians – all in a most sustainable manner.

Uniqueness of the project lies in the five direct car lifts for drivers to take their cars to and out of the parking lot.

**Table 6: Estimated Projected Annual Revenue generated by KMC**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total project cost</td>
<td>Rs. 36 crore approx.</td>
</tr>
<tr>
<td>Parking charges</td>
<td>Rs. 10 per hour/vehicle</td>
</tr>
<tr>
<td>Annual revenue for KMC</td>
<td></td>
</tr>
<tr>
<td>* Parking</td>
<td>5% of total parking charges i.e. Rs. 5 lakh estimated</td>
</tr>
<tr>
<td>* Shops</td>
<td>Rs. 100 a year/sq.m. i.e. Rs. 9.2 lakh</td>
</tr>
</tbody>
</table>

*Source: KMC*
Replicability
All mega cities and their old, inner city areas have issues of traffic and parking. Moreover, land is scarce in these congested localities for any new construction. KMC’s multi-level, underground car parking system at Lindsay Street and the strategies in sustainability is a panacea for such issues.

Recognition
It has received an award in Goa for introducing the best Car parking solution in India.

Contact for Details:
Shri. Md. Sahidul Islam, IAS,
Joint Municipal Commissioner,
Kolkata Municipal Corporation,
5 S.N. Banerjee Road,
Kolkata 700013
Phone: 033-22447432
Fax: 033 22440201
Email: kmc@vsnl.net
PUBLIC TRANSPORTATION SYSTEM
Title of Best Practice:  
**Fleet Expansion / Modernization Programmes of City Public Transportation, Bangalore**

State/City: Karnataka, Bangalore  
BP Code: SSS-PT-3##-1424-0410

---

**Previous Status**

After bifurcation from the Karnataka State Road Transport Corporation (KSRTC), on 15th August 1997, the erstwhile Bangalore Transport Service (BTS) Division was reconstituted as the Bangalore Metropolitan Transport Corporation (BMTC) and is functioning as an independent corporation providing reliable, well-coordinated and economic public passenger transport facility to the commuters in and around Bangalore City.

At the time of formation of the BMTC as an independent corporation, it had only 13 depots with a central workshop and was operating with a fleet strength of 2098 buses. The buses operated were of conventional type having two doors for entrance and exit of passengers without any automatic closing mechanism. The BMTC was operating indigenous buses manufactured by M/s Ashok Leyland and M/s Tata Motors. It was difficult for the aged, children, women and the physically challenged persons to board the buses easily. There were lots of complaints for improper display of destination board. Production of new chassis was carried out at Regional Workshop Kengeri, Hubli and at central workshop of the corporation. Renewal of fitness certificate, major accident repairs and re-conditioning of aggregates were carried out at the Central Workshop, Bangalore.

**New Approach**

Buses operated in Bangalore City were drawn from different divisions of non-bifurcated KSRTC after completion of its first life of 4.50 lakh kms. Such converted city buses in reality were posing heavy problems on reliability and comfort levels. When BMTC was carved out of KSRTC, the very objective of Regional Transport Commission Act was visualized and it was decided to upgrade and modernize the fleet by inducting new vehicles into its fleet.
Bangalore City is the fastest growing city in the country and it is the centre for internationally recognized information technology/biotechnology, health and education. As a result of which more people would be coming to Bangalore City from different states and even outside the country. Hence the Corporation had started inducting the state of the art, international standard Air Conditioned Volvo Buses in the year 2005. At present BMTC is operating 397 Volvo Buses.

### Table 7: The Year Wise Induction of New Buses after Bifurcation from KSRTC by BMTC

<table>
<thead>
<tr>
<th>Year</th>
<th>98-99</th>
<th>99-00</th>
<th>00-01</th>
<th>01-02</th>
<th>02-03</th>
<th>03-04</th>
<th>04-05</th>
<th>05-06</th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
<th>09-10 (Dec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tata</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>68</td>
<td>134</td>
<td>395</td>
<td>227</td>
<td>3</td>
<td>101</td>
<td>504</td>
<td></td>
</tr>
<tr>
<td>Leyland</td>
<td>125</td>
<td>158</td>
<td>243</td>
<td>215</td>
<td>172</td>
<td>335</td>
<td>294</td>
<td>189</td>
<td>627</td>
<td>318</td>
<td>612</td>
<td>250</td>
</tr>
<tr>
<td>Swaraz Mazda</td>
<td></td>
<td>128</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eicher</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>7</td>
<td>42</td>
<td>26</td>
<td>236</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volvo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>211</td>
<td>224</td>
<td>338</td>
<td>309</td>
<td>240</td>
<td>598</td>
<td>695</td>
<td>426</td>
<td>794</td>
<td>623</td>
<td>949</td>
<td>841</td>
</tr>
</tbody>
</table>

Source: BMTC

BMTC has removed some of its old vehicles which were not operationally satisfied in the form of comfort, revenue earning, etc. The fleet of BMTC is quite young, as it adopted a policy of scrapping the buses which have covered 8 lakh kms of operation or 10 years whichever is earlier. Average age of the BMTC fleet is 4.09 years. The Corporation is continuously adding new vehicles to its fleet to keep its fleet younger. As and when old vehicles are scrapped, more and more new vehicles are added to the Corporation. While drawing an action plan for augmentation of new buses the Corporation had faced lot of financial constraints.

As of now BMTC is operating about 5900 different makes of buses like Ashok Leyland, Tata, Swaraz Mazda, Eicher and also an international standard Volvo and Marcopolo buses with different brand names like Parisara Vahini, Pushpak buses, Vestibule joint buses (Road Train), Three door buses (One way movement for entry and exit), Women’s special bus, Pass holders special bus, Swaraz Mazda mini buses, Hospital special bus, Mall special buses, City sightseeing buses, etc, from 34 Bus Depots situated at various locations of the City stretched in a radius of more than 36 kms. The maintenance, body building, FC renewal, repair and reconditioning of aggregates, etc, are being carried out at full fledged two Central Workshops located at Shanthinagar and Krishnaraja Puram to cater the maintenance requirements of the Corporation.

### Fig. 21: Launching of Buses by the Minister of Urban Development, GoI at Bangalore

The Buses presently have -

1. High quality anti-skid vinyl floor mat.
2. GPS enabled voice announcement system with internal destination display boards along with 3 external destination display boards.
3. Air suspension both on front and rear axles,
4. Comfortable plastic molded seats and aesthetically designed interior with pleasant exterior.
5. Pneumatically operated front and middle doors which are controlled by the drivers.
6. Volvo Buses are equipped with air conditioner, cameras, kneeling mechanism, etc.
Table 8: Present Make-Wise Fleet Strength at BMTC

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Body Type</th>
<th>Ashok Leyland</th>
<th>Tata</th>
<th>Volvo</th>
<th>Swaraz Mazda</th>
<th>Eicher</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ordinary</td>
<td>979</td>
<td>311</td>
<td></td>
<td></td>
<td></td>
<td>1290</td>
</tr>
<tr>
<td>2</td>
<td>Three Door</td>
<td>8</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>Parisara Vahini</td>
<td>1147</td>
<td>666</td>
<td></td>
<td></td>
<td>397</td>
<td>2210</td>
</tr>
<tr>
<td>4</td>
<td>Pushpak plus</td>
<td>353</td>
<td>54</td>
<td></td>
<td>4</td>
<td></td>
<td>411</td>
</tr>
<tr>
<td>5</td>
<td>Suvarma</td>
<td>390</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
<td>513</td>
</tr>
<tr>
<td>6</td>
<td>Suvarna pushpak</td>
<td>43</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>7</td>
<td>Big-10</td>
<td>94</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td>138</td>
</tr>
<tr>
<td>8</td>
<td>Big Blue</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Big Circle</td>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>Vestibule</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>11</td>
<td>Low floor(Old)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Bangalore rounds</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>JNNURM 900mm</td>
<td>250</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
<td>443</td>
</tr>
<tr>
<td>14</td>
<td>JNNURM 650mm (Marcopolo)</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>97</td>
</tr>
<tr>
<td>15</td>
<td>Volvo Vajra</td>
<td></td>
<td>246</td>
<td></td>
<td></td>
<td></td>
<td>246</td>
</tr>
<tr>
<td>16</td>
<td>Volvo Vayu vajra</td>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>17</td>
<td>JNNURM 400mm (Volvo)</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>111</td>
</tr>
<tr>
<td>18</td>
<td>Swaraj Mazda</td>
<td></td>
<td>138</td>
<td></td>
<td></td>
<td></td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>3375</td>
<td>1560</td>
<td>397</td>
<td>138</td>
<td>401</td>
<td>5871</td>
</tr>
</tbody>
</table>

Source: BMTC

Goals of the Best Practice

The goal of the project was to provide high level comfort to the commuters of Bangalore City via (a) weaning away personalized mode of transportation, (b) reducing the road congestion/occupation, (c) reducing air pollution and (d) encouraging mass transportation system in Bangalore City.

Implementation Strategy

The Corporation draws an action plan every year for the induction of new vehicles required for augmentation of new services and for replacement of old vehicles.

Table 9: Detailing for Induction of New Vehicles by BMTC

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vehicles positions at the beginning of the year</td>
<td>5312</td>
<td>6142</td>
<td>6458.6</td>
<td>6791.45</td>
<td>7141</td>
<td>7508.6</td>
<td>7893.95</td>
<td>8299</td>
<td>8724.5</td>
<td>9170.75</td>
<td>9639</td>
<td>1013</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>New Vehicles proposed for augmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>400 mm floor height A/c Buses</td>
<td>158</td>
<td>60</td>
<td>63</td>
<td>67</td>
<td>70</td>
<td>73</td>
<td>77</td>
<td>81</td>
<td>85</td>
<td>89</td>
<td>94</td>
<td>918</td>
<td></td>
</tr>
</tbody>
</table>
### Table 10: Budget details for induction of new vehicles by BMTC

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cost towards 400mm Floor height A/c Buses (Rs. Lakhs) Unit price taken as Rs. 72 lakh and raised by 10% every year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Unit price</td>
<td>72</td>
<td>79.2</td>
<td>87.12</td>
<td>95.83</td>
<td>105.42</td>
<td>115.96</td>
<td>127.55</td>
<td>140.31</td>
<td>154.34</td>
<td>169.77</td>
<td>186.75</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>No. of Buses</td>
<td>158</td>
<td>60</td>
<td>63</td>
<td>67</td>
<td>70</td>
<td>73</td>
<td>77</td>
<td>81</td>
<td>85</td>
<td>89</td>
<td>94</td>
<td>918</td>
</tr>
<tr>
<td>c</td>
<td>Total Cost</td>
<td>11376</td>
<td>4783.68</td>
<td>5523.41</td>
<td>6382.41</td>
<td>7379.06</td>
<td>8511.22</td>
<td>9847.04</td>
<td>11364.92</td>
<td>13118.76</td>
<td>15143.68</td>
<td>17517.1</td>
<td>110947.3</td>
</tr>
<tr>
<td>2</td>
<td>Cost towards 650 mm Floor height A/c Buses (Rs. Lakhs) Unit price taken as Rs. 31 lakh and raised by 10% every year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Unit price</td>
<td>31</td>
<td>34.1</td>
<td>37.51</td>
<td>41.26</td>
<td>45.39</td>
<td>49.93</td>
<td>54.92</td>
<td>60.41</td>
<td>66.45</td>
<td>73.1</td>
<td>80.41</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>No. of Buses</td>
<td>79</td>
<td>30</td>
<td>32</td>
<td>33</td>
<td>35</td>
<td>37</td>
<td>39</td>
<td>41</td>
<td>43</td>
<td>45</td>
<td>47</td>
<td>459</td>
</tr>
<tr>
<td>c</td>
<td>Total Cost</td>
<td>2449</td>
<td>1029.82</td>
<td>1189.07</td>
<td>1373.99</td>
<td>1588.5</td>
<td>1832.28</td>
<td>2119.85</td>
<td>2446.61</td>
<td>2824.18</td>
<td>3260.1</td>
<td>3771.04</td>
<td>23884.49</td>
</tr>
<tr>
<td>3</td>
<td>Cost towards 900mm Floor height Non A/c Buses (Rs. Lakhs) Unit price taken as Rs. 22 lakh and raised by 10% every year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Unit price</td>
<td>22</td>
<td>24.2</td>
<td>26.62</td>
<td>29.28</td>
<td>32.21</td>
<td>35.43</td>
<td>38.97</td>
<td>42.87</td>
<td>47.16</td>
<td>51.87</td>
<td>57.06</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>No. of Buses</td>
<td>1209</td>
<td>875</td>
<td>920</td>
<td>967</td>
<td>1017</td>
<td>1067</td>
<td>1123</td>
<td>1180</td>
<td>1240</td>
<td>1303</td>
<td>1369</td>
<td>12267</td>
</tr>
<tr>
<td>c</td>
<td>Total Cost</td>
<td>26587</td>
<td>21162.69</td>
<td>24483.75</td>
<td>28308.37</td>
<td>32741.67</td>
<td>37813.97</td>
<td>43748.7</td>
<td>50577.98</td>
<td>58465.31</td>
<td>67566.99</td>
<td>78104.07</td>
<td>4695.6071</td>
</tr>
<tr>
<td>4</td>
<td>Total Cost of the Vehicles (Rs. Lakhs)</td>
<td>40412</td>
<td>28976.4</td>
<td>31196.22</td>
<td>36064.78</td>
<td>41709.28</td>
<td>48157.47</td>
<td>55715.59</td>
<td>64389.51</td>
<td>74408.25</td>
<td>85970.77</td>
<td>99392.21</td>
<td>604392.49</td>
</tr>
</tbody>
</table>

*Source: BMTC*
Challenges / constraints

One of the major problems faced by BMTC, to meet the targeted production as per the action plan, was the available man power at Central Workshop. The Corporation therefore, planned to build the chassis on labour contract basis by out sourcing the skilled labours and supervising the work by the present available Engineers of the Corporation. It further started to procure the fully built, ready to use buses, directly by the chassis manufacturers.

Outcome

As a result of fleet expansion and modernizing practices, the buses plying have increased to 5900 from 2028 in a span of 10 years, an increase by three folds. The different buses with international standard are attracting the public to use the BMTC buses as an alternate mode of transportation to their own personal vehicles, contributing to decongestion of the road there by reducing the traffic jams, etc. Also the rolling stock operated on route reaching nook and corner of the City and thus providing almost last mile connectivity transport services to the Public. As a result of introduction of the Euro norm buses which are environmental friendly, reduced pollution levels as in the earlier conventional buses. The vehicles equipped with air suspension both on front and rear axles and Air conditioners; like Volvo, Marco polo buses increases the traveling comfort level, pneumatically operated passenger doors are avoiding accidents, and will create an image of safety by traveling in BMTC Buses in the minds of commuters. The Intelligent Transportation Systems facility introduced, such as Voice announcement system facilitates the commuters, as they automatically alerts the public where they intend to alight, particularly for the persons with impaired vision. Internal destination boards will help the passengers with impaired hearing and also for the common bus users.

The kneeling mechanism provided on Volvo buses is helping the peoples with impaired mobility and they can use wheel chairs to board and alight off the bus.

Achievements and Results

As improved and modernized buses plying on all the corners and routes of Bangalore, the public are impressed and fascinated to travel in the BMTC buses, instead of using their own mode of transportation. It was learnt that about 40 lakh passengers are commuting every day in the BMTC buses and operating more than 73500 trips around the city. The Corporation gradually generates revenue by inculcating the concept of using public transport.

Sustainability

The Corporation utilizes its internal resources to procure buses and building infra structures like Depots, Workshops, etc. Whenever required it borrows money from the banks, for which Corporation had paid sizeable amount of interest.

Bangalore is one of the two cities taken up under JNNURM in Karnataka. BMTC has been sanctioned 1000 buses worth Rs. 323.82 Crores, for additional rolling stock under the economic stimulus package. BMTC being the first in the country to place purchase orders and start procurement of buses under the scheme, has put into service 651 JNNURM funded buses so far, one of the highest among of Mission cities in India.

The CSMC approved assistance for procurement of 1000 buses for the Bangalore city in its 68th and 70th meeting held on 13 February 2009 and 26 February 2009, respectively as detailed below:

Table 11: Revenue generation, BMTC

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Type of Bus</th>
<th>No. of buses</th>
<th>Cost per bus, exclusive VAT</th>
<th>Total (in Cr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>900/850mm</td>
<td>700</td>
<td>22.00 lakhs</td>
<td>154.00</td>
</tr>
<tr>
<td>2</td>
<td>650mm</td>
<td>100</td>
<td>31.16 lakhs</td>
<td>31.16</td>
</tr>
<tr>
<td>3</td>
<td>400/390mm</td>
<td>200</td>
<td>69.33 lakhs</td>
<td>138.66</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1000</td>
<td></td>
<td>323.82</td>
</tr>
</tbody>
</table>

Source: BMTC
Budgetary Implications

The funding pattern for these buses is as follows:

- GOI : 35%
- GOK : 15%
- BMTC : 50%

BMTC uses its internal resources to upkeep its practices in force. The details of the buses supplied by the bus manufacturers under JNNURM scheme are tabled below:

**Table 12: Public – Private Partnership between BMTC and Private Partners**

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Type of bus</th>
<th>Name of the firm</th>
<th>Ordered quantity</th>
<th>No of Buses received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>400mm floor height AC buses</td>
<td>M/s. Volvo Buses India Pvt., Ltd.</td>
<td>200</td>
<td>111</td>
</tr>
<tr>
<td>2</td>
<td>650mm floor height AC buses</td>
<td>M/s. Tata Motors</td>
<td>98</td>
<td>97</td>
</tr>
<tr>
<td>3</td>
<td>900mm floor height buses</td>
<td>M/s. Tata Motors</td>
<td>452</td>
<td>193</td>
</tr>
<tr>
<td>4</td>
<td>900mm floor height buses</td>
<td>M/s Ashok Leyland</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1000</td>
<td>651</td>
</tr>
</tbody>
</table>

Source: BMTC

Replicability

Other State Transport Undertaking's (STU) have made a study on the practices of BMTC to adopt and implement the best practices in their states. Recently, KSRTC had obtained the details and performance of BS-III buses which are in operations at BMTC to introduce the same type of buses in Kerala State. The Director of Technology, Chennai Transport Corporation, had recently visited the BMTC and has appreciated the technology adopted and the functioning of Tier re-treading plant, retrieving and reconditioning sections at Central Workshop and was of the opinion of setting up the same type of facilities at their Workshops also. The STU of Rajasthan is also highly impressed by the practices of BMTC and has agreed to implement the same in the State of Rajasthan.

**Contact for Details:**

**Mr. B. Makkanna,**  
Chief Mechanical Engineer  
Bangalore Metropolitan Transport Corporation,  
KH Rad, Central Offices,  
Shanthinagar, Bangalore - 560027.  
Office: 080-22952531  
Mobile: 9480842233  
Fax: 22952531  
e-mail: cmebmtc@gmail.com

**Ms. Sapna.N**  
Coordinator,  
City Managers’ Association, Karnataka,  
21st Floor, Public Utility Building,  
MG Road, Bangalore – 01  
Phone: 25590333  
Fax: 25590332  
E-mail: coordinator@cmakarnataka.com
PUBLIC - PRIVATE PARTNERSHIP
Title of Best Practice:
Fund Your City - A PPP Initiative for Urban Infrastructure Development, Hyderabad

State/City: Hyderabad, Andhra Pradesh
BP Code: PPP-##-7##-0101-0310

Previous Status

The city of Hyderabad was founded by Mohammad Quli Qutub Shah in 1591. The population growth has been phenomenal in the surrounding areas of the Municipal Corporation of Hyderabad (MCH). Further, the rapid peripheral growth is expected to be continued in the coming decades with the projections indicating a population of 28.8 lakhs in 2011 and over 50 lakhs by 2021 as against the population of 17 lakhs in 2001. A city development planning agency called Hyderabad Urban Development Authority (HUDA) was set-up in 1975 to plan the developments in the growing metropolis. The area and population of HUDA have been increasing gradually in tune with the developments taking place in and around Hyderabad City. In the face of rapid growth of the city in recent years, the boundaries were extended and MCH was changed into the Greater Hyderabad Municipal Corporation (GHMC) in 2007 by merging the surrounding municipalities and few other urban areas.

There are mainly three organizations responsible for developing urban infrastructure facilities in the Hyderabad Metropolitan Region viz., the GHMC, Hyderabad Metropolitan Development Authority (HMDA) and Hyderabad Metropolitan Water Supply and Sewerage Board (HMWSSB). While the HMDA is involved in the construction of flyovers and bridges; clean and green project; development of commercial and office complexes; the ring roads; truck terminals; etc., the HMWSSB is responsible for providing water supply and sewerage facilities in the metro region. The urban renewal project focusing on the old city is being handled by HUDA. The GHMC being the civic body is responsible for providing and maintaining the basic civic facilities and services in the corporation area.

GHMC has been under pressure due to continuous increase in the demands due to expansion of the city and declining infrastructure in the older parts of the city. With the inclusion of the large suburban areas into its fold recently, the burden of providing the civic infrastructure and services has now increased manifold.

Therefore, the Government of Andhra Pradesh has been pursuing privatization of infrastructure vigorously in recent years. Several mega projects are initiated in the urban sector too. These mega projects involve huge capital investments both, from the public sector and the private sector. An effective policy and regulatory framework is therefore, needed to proceed successfully in the Public-Private Partnerships (PPP) initiatives. The Government has taken certain measures in this direction in recent years. The most important of these is enactment of the Andhra Pradesh Infrastructure Development Enabling Act, 2001 which came into effect from August 20, 2001. This Act primarily applies to all infrastructure development projects in the specified sectors. The areas initially identified in the urban sector are: roads, bridges and bye passes; health; land reclamation; water supply – treatment and distribution; waste management; sewerage and drainage; public markets; trade fairs, conventions and cultural centers; public buildings; gardens, parks and recreation; and real estate.

The financial strength of the GHMC is considered strong as is evident from the recent Internet Content Rating Association’s (ICRA) rating of GHMC with AA- grade which is highest rating in India as far as ULBs are concerned. The City Development Plan of Hyderabad estimated a roadmap for investments on urban development projects by the GHMC with an estimated investment of Rs 7,315 crore for a seven year period. Fund-Your- City (FYC) is the scheme initiated by the GHMC under the PPP approach.
The above budget estimates shows that GHMC has to depend much on its internal revenue generation capacity as the external receipts came mostly in the form of plan schemes like the current Jawaharlal Nehru National Urban Renewal Mission (JNNURM). GHMC had floated Rs 80 crore tax-free municipal bonds.

**New Approach**

All ULBs in the State initiated several schemes to adopt the PPP strategy of mobilizing revenues to meet the increasing demand on infrastructure services front. GHMC had initiated a novel scheme called Fund Your City, to involve the private sector and civil society organization in creating modern urban infrastructure facilities in the fast growing metropolis of Hyderabad. The GHMC developed some good infrastructure facilities in the traffic and transport and sanitation areas under this scheme without incurring expenditures by itself and also created assets and generated sources of income in the process.

**Objectives**

The main objective of the FYC initiative was to involve corporate houses, NGOs, philanthropic
institutions and citizens in improving the infrastructure. Junction improvements, installation and maintenance of traffic signals, beautification and maintenance of road mediums, traffic islands, sidewalks, footpaths ad fountains, construction of foot over bridges, painting of road markings, erection street furniture, construction and maintenance of public conveniences and slum adoption are certain areas that were identified to be funded under the FYC scheme on BOT system.

**Implementation Strategies**

The following infrastructure facilities were identified for development along with licensing the advertisement rights.

- Construction and maintenance of Foot over Bridges.
- Junction improvements.
- Improvement and maintenance of Central Medians.
- Construction and maintenance of Public Conveniences.
- Painting of Zebra Crossings and installation of signage in schools.
- Tree Guards at prime locations.
- Grant of right to collect advertisement fee on neon/glow sign boards attached to the shops, establishments, offices, etc. to private individuals/agencies.
- Outsourcing of collection of the entertainment tax on cable TV network operations.
- Design, Finance, Build, Maintain and Transfer of international quality Bus Shelters.

It was observed that the GHMC received very good response for this initiative. In the light of good response and competition for various items for sponsorship, it was decided to go for open bids-cum-auction to be more transparent. The first bid was held on 10th September 2005 and twelve bids have been held so far under the scheme.

GHMC issued guidelines for bidding and developing/maintaining the facilities under various items. The successful bidders are to enter into contracts to develop and/or maintain the facilities in the above-mentioned areas. They are given licenses for advertisement rights over the sites developed during the contract period. The successful bidders can decide whether they would carry out the construction and/or maintenance as the case may be or would like GHMC to do the same on his behalf for which he shall pay the cost as specified.

At the end of the license period, the licensee shall handover the property to GHMC and it shall not be liable to pay any compensation for such an act. During the license period, the licensee shall have the rights to advertise through hoardings/boards, etc., as per the specifications given. Further, the licensee has to pay all taxes and fee to the concerned authorities during the contract period. The licensee shall also have the right to collect the user charges if such provision is made in the contract. This facility may be applied in case of maintaining services like public conveniences and toilets.

**Achievements / Results**

GHMC not only developed assets but also is getting additional annual income under this scheme. The following are details of the assets and income generated under this scheme.

- **Foot Over Bridges**

In order to ease the traffic flow and facilitate safe road crossing by the pedestrians, construction of Foot Over Bridges (FOBs) was contemplated by the GHMC. It has taken-up construction of the FOBs on BOT method of PPP by involving the private sector.

**Fig. 26: Foot Over Bridges at GHMC**
♦ **Public Toilets**
In order to meet this basic need, GHMC has embarked on construction of public toilets at strategic places accessible conveniently to the public use and invited tenders for construction of public toilets under PPP method of design, BOT at different locations on 5th January 2009 by registered contractors with GHMC.

*Fig. 27: Public Toilet at GHMC*

♦ **Bus Shelters**
GHMC has initiated a project to construct bus shelters of international standards on PPP mode. It is stipulated that these bus shelters will have digital display with GIS technology and tracking of information of buses arrivals at every 30 seconds intervals.

*Fig. 28: Bus Shelter at GHMC*

♦ **Other Works**
Several other works relating to road infrastructure and central medians were also taken up by GHMC under the scheme. The central medians are constructed in the middle of the roads to facilitate regulated traffic.

*Fig. 29: Central median at GHMC*

Other categories of works include junction improvement, zebra crossings and signage’s, obligatory spans on flyovers, lollipops on central medians, electrical poles, tree guards, arches at flyover ends, hoardings, etc.

*Fig. 30: Road Lights at GHMC*

*Fig. 31: Tree guards and signage at GHMC*
Problems and Issues

GHMC has been facing certain problems in the execution due to objections from the affected shopkeepers. In some cases, the landing of the foot-over-bridges was just in-front of the shops and the shopkeepers naturally protested this as it affected their business. As land acquisition for this purpose of work is also difficult, GHMC had taken extra-care in selecting the exact site and the landings so that inconvenience to the shopkeepers was not created.

Lessons learned

GHMC should bestow more attention in effective implementation with further scope of improvement through the following:

- It should have a separate unit with required experts to give total attention for efficient implementation of the FYC scheme or other projects taken up on PPP model.
- There is need for developing infrastructure facilities with proper care in terms of site selection, adverse impact on the affected people, proper grievance redressal mechanism and finally the actual benefit to the people.
- It should implement the scheme as a PPP project. Hence, there is need for networking with the private agencies with close interactions and monitoring. Close monitoring is essential because some of the private agencies may delay the process for different reasons.
- It should develop proper accounting of the assets created, income generated and financial obligations.
- It also should take steps to popularize the scheme by more publicity and peoples’ education.

Impact of the Project

Fund Your City, is an innovative programme, wherein citizens and industrialists fund the development works. They help in creation of infrastructural facilities in PPP mode. The programme has been a grand success. The corporation mobilized Rs 54 core in four rounds.

Contact for Details:

Dr. Sameer Sarma I.A.S
Commissioner
Greater Hyderabad Municipal Corporation
Municipal Complex, Tank Bund Road
Hyderabad - 500063
Andhra Pradesh
Phone: 23224564
E-mail: commissioner@ghmc.gov.in

Prof. Bhupatthi Rav
Director and Member, Executive Council
Regional Centre for Urban and Environmental Studies (RCUES)
Osmania University
Hyderabad – 500 007
Andhra Pradesh
Phone: 091-040-27098494 (O), 9849744088 (M)
Fax: 091-40-27090321
E-mail: director_rcues_ou@yahoo.co.in
Title of Best Practice:  
PPP Initiative for City Bus Services at Rajkot Municipal Corporation

State/City: Rajkot, Gujarat  
BP Code: PPP-##-1.1-0814-0310

Previous Status

Rajkot is one of the fastest developing cities located in the center of Saurashtra region of Gujarat State. The present level of development of the city is the outcome of the process of progressive development going on since decades. Autos and Chhakdas mainly catered public transport in the city for long time. With the growth of city, need for a better public transport system was felt.

Public transport requirements in Rajkot were met through privately owned vehicles like auto rickshaws, private four wheelers, very few taxis and few government run buses. Situation was not going out of control as the population was growing constantly and transportation was controlled by the privately owned small vehicles.

In Rajkot, previously there were 52 buses that were operated by the Gujarat State Road Transport Corporation (GSRTC) and 15 buses are under mofussil operation. City Transport operated 46 schedules (each schedule consisted of one or more routes) daily on 208 routes. Total km. operated was 8170 kms and total trips were 848 per day by the City Transport. It carried about 10,000 passengers daily. City bus transports had main control points at Trikon Baug Garden and Bhaktinagar circle. Both the control points did not have any facilities for passengers. City Buses ran empty most of the time due to low frequency and high waiting hours.

Earlier 60 schedules were in force (during 1999-2000), which reduced to 46 because of low passenger demand. Subsequently the services become redundant with low satisfaction quotient from passengers. Under City Development Plan need for the new services were felt.

In Rajkot the problem was of getting a sustainable mode for transportation system. The main problems faced were:

- Increasing number of auto rickshaws on the road.
- Lack of public transport.
- Growing number of private vehicles.
- Congestion in transport.

New Approach

The Rajkot Municipal Corporation (RMC) decided to take up the issue of public transportation under PPP model. Under this initiative, private players were supposed to deliver the services, on behalf of RMC. This was decided under comprehensive strategic management exercise under JNNRUM scheme.

Objective

The goal of Rajkot Urban Transportation (RUT) sanctioned under the JNNURM scheme at RMC is to provide sustainable and cost effective city bus services to the residents of Rajkot and nearby localities. Along with this the privatization is also aimed at reducing the financial and administrative burden of RMC.

Implementation Strategy

Under town development plan, new strategy was formulated through discussion among various governmental, non-governmental and public representatives.

Unlike the previous strategies, this time round City Bus Services was planned on the lines of Surat Municipal Corporation, where under PPP mode, city bus services are allocated to private partners in lieu of financial agreement.
Traffic and transport survey was conducted to assess the need and the possible outcome of the proposed services.

Through comprehensive tender process, the highest bidder was awarded the project for seven operational years. In a pre-bid opening session for the work to procure, own and operate city bus transport in Rajkot city, two bidders had submitted their bid. Actually four operators had formally accepted the bidding applications, of which only two bidders finally turned out on the scheduled date. Tender had been awarded to the Raj City Bus Services because they had agreed to pay Rs 60.5 lakh in their first seven years of operation. In the first phase, Raj City Bus Services had agreed to operate on the 45 routes in Rajkot city as operated by GSRTC and would be rolling out fleet of 50 Compressed Natural Gas (CNG) fuelled buses. Slowly and gradually 200 buses would be slotted in the same system, as the objective of maximum number of people residing in Rajkot availing the benefits of this facility would be fulfilled. Frequency of bus is in every 10 minutes in peak hours on the existing 45 routes. The Corporation had also asked city bus service operator to create network of 1,000 plus distribution points in the first year.

**Contract Modalities**
- On contract RMC provided 10 zones for operations.
- Operator had to pay the royalty of Rs. 60.5 Lakhs.
- Bus services are operational in only one zone and in other zones; it is yet to be operational.
- On contract 125 routes are identified but not yet operational.
- Bus stand and stop pillars are constructed by RMC.
- Operator shall take the income from the advertisements for both outer and inner circulars.

**Challenges and Constrains**
- Creation of new services and getting it approved from the Governmental Body was a challenge.
- Creating new services within very competitive and necessary amenity could have lead to the confrontation but it was dealt well as auto rickshaws were considered as complementary mode of transportation then competitors.
- Initial trial of city bus services was a failure, restarting the whole process was a big challenge.

**Outcome of the Project**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Object</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No. of Buses</td>
<td>45+4</td>
</tr>
<tr>
<td>2.</td>
<td>Monthly income</td>
<td>32,00,000.00</td>
</tr>
<tr>
<td>3.</td>
<td>Passenger per day traveling</td>
<td>20,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>Operating Km.</td>
<td>10,200.00</td>
</tr>
<tr>
<td>5.</td>
<td>Schedule</td>
<td>51</td>
</tr>
<tr>
<td>6.</td>
<td>Trip</td>
<td>408</td>
</tr>
</tbody>
</table>

Central Control Point - Trikonbaug as per contract with RMC in Code 13.

Source: RMC

From October 2007, Raj City Bus Services is operating city bus services in Rajkot and their...
impact of services can be seen from the table provided here.

The operational issues concerning the route allotment and bus stops have not come up as the operations are limited to very few routes.

**Fig.33: VITCOS Transportation, Rajkot**

---

**Achievements and Results**

- For any services to be successful there is a need to take into account the stakeholders perspective which includes the service recipients, service providers and monitoring body respectively.

- For implementation of any public utility it needs to be approved by the citizens. Rajkot Bus Services till now has been appreciated and accepted by citizens, as it is reducing dependency on traditional mode of transportation. Like all major bus services it has provided space for women and passes coupon facility. Citizen portal provided under RMC website also has postings on the RTU services. One thing that has unanimously been felt is the extension of services as well as the frequency of the services.

- Operators as service providers, provides good services but on financial grounds they are incurring losses and are also not providing some of the basic infrastructure as agreed in the contract. However, on the part of road services, they have kept it in good shape and passengers are satisfied using the services.

- The whole idea was devised by RMC and with the strategic vision of better public transportation system. RMC has firm belief that through PPP it can ensure quality public transport services to its citizens.

---

**Replicability**

This model is already doing well in Surat and other parts of the country, as it truly provides competitive edge as well as reduces the operational costs.

---

**Contact for Details:**

**Shri D.H. Brahmbhatt, I.A.S,**
Commissioner,
Rajkot Municipal Corporation
Dhebarbhai Road,
Rajkot (Gujarat)
Ph: 91-96- 24701101
Mobile: +91-9624718292
E-mail: mc_rmc@rmc.gov.in

**Ms. Trupti Jain**
Executive Director
City Managers’Association Gujarat
Ahmedabad Municipal Corporation
West Zone Office, Usmanpura Cross Roads,
Ahmedabad - 380 013
Ph. : 91-79-27561184/85
Ph.fax : 91-79-27551595
Mobile: 09925007097
E-mail: trbjain@yahoo.com
Urban Poverty
Title of Best Practice:
Cost effective housing for the Urban Poor, Ahmedabad

State/City: Ahmedabad, Gujarat
BP Code: UPY-###-###-0812-0310

Previous Status

For the last two decades, Ahmedabad in Gujarat had witnessed unprecedented growth in urban population.

Cities population is expected to be 65 Lakhs in 2011. Apart from population settlement area has grown many folds from 90 sq kms (1971) to 466 kms (2009). With this magnitude of growth Ahmedabad is facing problem of growing slum population from 4.56 Lakhs to 9.06 Lakhs (16.7% to 20.7%) of total population. Rapid growth of slum dwellers forced urban authorities to look into the housing concerns in Ahmedabad.

Traditionally Ahmedabad had two patterns of urban poor habitats; first the Cotton Mill provided ‘Chawls’ with deteriorating living conditions and second concentration was of scattered slum dwellings. The second categories of slum dwellings are temporary structures and mostly occupied by migrant unskilled workers. With minimum to no sanitation and hygiene most of these localities are deprived of basic amenities like health centers, schools and crèches. Adding to this recent decade has witnessed many development activities in Ahmedabad which lead to displacement of large population within the confinement of Ahmedabad city.

New Approach

Housing need is one of the most basic needs for any population and requires a lot of research study and projected estimations, in order to accommodate the existing gap and the future demand for the coming years.

There are 10.5 lakhs houses in Ahmedabad. Out of which, 67% are used for residential purposes. The city has a large vacancy rate of 12.5% as the owners are wary of letting out their properties due to rent control regulations. 66% of the slums are located upon private lands; 13% are encroached upon government; 17% on municipal land and 4% are encroached upon lands held by other parties. There is only 710 slum housing over 9 lakh people.

There is a need to accommodate 6.5 million populations that will require 5 lakh extra housing units out of which 2 lakh will be required for urban poor's with all infrastructure facilities. This was provided through the Basic Services to Urban Poor (BSUP) slum networking project, slum clearance board and other schemes. About 5% to 10% of prime land under Town Planning Act was reserved for the urban Poor’s. Cost effective housing for Economically Weaker Sections (EWS) scheme was initiated under JNURM by Ahmedabad Municipal Corporation (AMC) and Ahmedabad Urban Development Authority (AUDA) with the vision to provide low cost housing for the slum dwellers and project affected people.

Under city development plan, need for EWS was felt and with consultation with major stake holder’s viz. citizen groups, elected urban body representative, government officials and civil society organizations, AMC under phase one is constructing 18,976 dwellings. As of now 7500 dwellings are completed. Most of the dwellings are provided to the project affected people on the priority basis. Approximately, fifteen thousand families have been identified as the beneficiaries in the first phase.

Objectives

To make Ahmedabad a slum free city by year 2012, AMC has a goal of constructing housing for 1, 10,000 families.

Implementation Strategies

- Series of broad-based consultations were held. Stakeholders were included along with elected representatives, professionals, Non -
Governmental Organisations (NGOs) and government officials.

- Land for EWS housing is made available by AMC in tune of 6, 20,000 sq mts. Under Town Planning Act, 10% land is reserved for urban poor. 20% of the land was made available from closed textile mills (as per State Government), which is kept at the disposal of AMC. Most of the plots have area in excess of 10000 sq mts.
- Construction of the housing complex was done through “Mascon Aluminum Foam” work technology i.e. an earthquake resistant technology, which is fast and requires least maintenance cost. The whole process is done on the basis of detailed project report and tender process. All major precautions were taken care of to ensure the quality of construction.
- After construction, the residential complexes were allotted to the registered and identified slum dwellers. In the initial phase, most of the houses are allocated to the project affected people on priority basis. Under AUDA, more than six thousand houses are allotted through the process by advertising for house allotment and draw on the application forms takes place. Based on the draw results, allotments are done in places like Vejalpur, Jodhpur tikra, Kathwadiya, Vastrapur and other locations.

Fig.34: Participatory Process under the Scheme, Ahmedabad

Fig.35: Community Participation in Group Meetings held under the programme, Ahmedabad

- Sale agreement is done in the name of the women of the family and identities of all family members are kept to ensure the right allotment and to check discrepancies. This measure is taken in order to make sure the long presence of beneficiaries (for initial ten years) so that slum dwellers cannot transfer the property.

To safe guard the interests of beneficiaries biometric identification procedure is adopted to avoid fraud and deception.

Activities Implemented

- AMC has adopted a new type of housing construction technology using Aluminum alloy shuttering (Mascon Technology, Canada). This technology has many distinctive features:
  - This is a monolithic construction with good finish and no joints, where as conventional designs have thick walls and joints.
  - It doesn’t require plastering as there is very good finishing. Plastering is an important requirement in conventional housing.
  - Very high speed of construction i.e. two days per floor and with this speed, allotment process becomes speedy to the beneficiaries.
  - There is better space management as the thickness of walls is 10 cms only whereas conventional structure takes more built-in area.
Box: Mascon Technology, Canada

The “Mascon technology” for construction of the dwellings, is new in India. Ahmedabad, Mumbai and now Chandigarh urban bodies are using it for urban housing schemes. Moreover, housing scheme is connected with loan facility and chunk of the housing lots are made available within the proximity of city. AMC’s pilot project is going to be replicated by other urban bodies.

- Earthquake resistance structure that can hold very high magnitude of earthquake (8 to 9 mag. on Richter scale), as the whole structure is based on concrete with steel TMT rods. It provides resistance where as conventional structures are prone to high magnitude of earth quake. This is one of the most striking features considering Ahmedabad is located in high risk.

- Heat proof ceramic covered ceilings are provided to the beneficiaries.

Table 14: Housing Layout Space Plan, AMC

<table>
<thead>
<tr>
<th>Sr. n</th>
<th>Component</th>
<th>Size</th>
<th>Carpet Area (Sq.mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Living Room</td>
<td>3m x 3m</td>
<td>9.00</td>
</tr>
<tr>
<td>2</td>
<td>Bed Room</td>
<td>3m x 3m</td>
<td>9.00</td>
</tr>
<tr>
<td>3</td>
<td>Kitchen</td>
<td>2.1m x 2.9m</td>
<td>3.99</td>
</tr>
<tr>
<td>4</td>
<td>Bath</td>
<td>0.9m x 1.5m</td>
<td>1.35</td>
</tr>
<tr>
<td>5</td>
<td>W.C.</td>
<td>0.9m x 0.9m</td>
<td>0.81</td>
</tr>
<tr>
<td>6</td>
<td>Balcony</td>
<td>0.9m x 2m</td>
<td>1.80</td>
</tr>
<tr>
<td>7</td>
<td>Passage</td>
<td>0.91m x 0.9m</td>
<td>0.819</td>
</tr>
<tr>
<td></td>
<td>Total Carpet Area / DU</td>
<td>26.77</td>
<td></td>
</tr>
</tbody>
</table>

Source: AMC

- There are two sets of facilities provided to the beneficiaries:

  - **Basic Amenities** - All housing colonies under the scheme are provided with roads, 24X7 water supplies, well built sewerage system, storm water disposals, solid waste collection and disposal mechanism and paved surface to protect from dust, street lights.

  - **Social Infrastructure** - Every plot measuring more than five hundred dwelling units are provided with common open space, park for amusement, school, health care center anganwadi and garden. Most of the above said measures were not available in the initial settlements. This typology of habitation is maintained to keep the aim of a clean and green habitation for the urban poor at an affordable price.

- Cost effectiveness is the most important aspect of these structures. For EWS, the most important consideration is cost. Considering the magnitude of the project key is to have cost minimization in construction. In the beginning each units estimated cost was Rs. 1.78 Lakhs which was increased to Rs. 2.25 Lakhs per unit due to escalation of prices. Despite this escalation following features are keeping cost minimized.

- Use of Aluminum shuttering based framework gives an average of 15 per cent cost saving in the structure of the building and increase usable floor spaces by 8 per cent over Reinforced Cement Concrete (RCC) design. This model of technology is time saving as it takes just 1/6th RCC technology.

- The durability of a complete concrete structure is more than conventional brick based masonry and with almost zero maintenance, it is more cost effective. Less labor is also required for carrying out the framework that further reduces cost.

- Loan component is one of the unique features of the project where Central Bank of India is providing housing loans with subsidized interest, for a period of 15 to 20 years, with a maximum limit of Rs 60,000 to urban poor. As the interest rate subsidy under the scheme is 5 per cent of the effective rate of interest, rate for home loan takers is around 3 per cent only. For the first time any such measure is taken by Public Sector Bank in Gujarat.

- One more feature is the location of these housing units. Most of these settlements are carved out within the main city. 12 out of 35 settlements are built in prime locations. Close proximity has provided them closeness to the work place. This mode of development provides much better connectivity to other urban amenities and proximity to the work station.
Fig. 36: Madrasi Chali, Ahmedabad

Achievements / Results

- Successfully implemented slum networking project.
- More than 30% have been earmarked in the municipal budget for urban poor.
- Land for urban poor housing through Town Planning Act, usage of closed mill lands and usage of urban land ceiling lands, providing approx. Rs. 300 crores worth of land for construction of 32000 houses for the poor.
- Participation of stakeholders in planning.
- Unique time and cost saving technology that is foolproof to hazards like earthquake of high magnitude.
- Social infrastructure like schools, anganwadis, along with other amenities.
- Provided the property right to women along with family, allotment is underway on the basis of biometric impression.
- Loan facility is provided to the beneficiaries on very low interest rate.

Sustainability

As sustainability is major concern, project beneficiaries are going to form societies for operation and maintenance of the project. The maintenance includes premises of block infrastructure facilities such as water supply, sewerage, storm water, internal road, electricity, streetlight and block within compound. Maintenance will be taken care from the contribution (fixed amount) per month from each member on the guidelines of the programme.

Finance

Project is funded on the basis of JNNURM guidelines. For the contribution of beneficiaries, AMC is providing the facility of soft loan of up to Rs 60,000. This is arranged with the agreement of Central Bank of India.

Table 15: Funding Pattern, AMC

<table>
<thead>
<tr>
<th>S. no.</th>
<th>Agency</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government of India grant</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>Government of Gujarat grant</td>
<td>20%</td>
</tr>
<tr>
<td>3</td>
<td>Beneficiaries / AMC</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: AMC

Contact for Details:

Shri. I. P. Gautam, I.A.S
Commissioner,
Ahmedabad Municipal Corporation
Sardar Patel Bhawan, Danapith,
Ahmedabad: 380001
Ph: 91-79- 25352528 / 26407739
E-mail: ipgautam@egovamc.com

Ms. Trupti Jain
Executive Director
City Managers’ Association Gujarat
Ahmedabad Municipal Corporation
West Zone Office, Usmanpura Cross Roads,
Ahmedabad - 380 013
Ph. : 91-79-27561184/85 / 91-79-27551595
Mobile: 09925007097
E-mail: trbjain@yahoo.com
Title of Best Practice:
Initiatives for the Urban Poor by the Municipal Corporation of Greater Mumbai

State/City: Maharashtra, Mumbai
BP Code: UPY-###-7###-1631-0209

Previous Status

The Municipal Corporation of Greater Mumbai (MCGM) introduced programmes “ASHRAY” and “ADHAR KENDRAS” to regulate housing constructions and employment generation in Greater Mumbai. The initiatives seek to promote sustainable urban development and reduce the burden on the city’s infrastructure and environment. Both the programmes were unique in their own way and were motivated for the urban poor in Mumbai. The programmes have been documented below in two parts. Part 1 shall focus on the ASHRAY programme and Part 2 on the ADHAR KENDRAS.

Fig. 37: Mumbai Slums

MCGM therefore, proposed to undertake an ambitious and significant step in redeveloping these sites to build houses for all the conservancy staff. It also intended to establish high housing standards with infrastructure, social amenities and open-spaces.

Fig. 38: ASHRAY Sites, Mumbai

Fig. 39: Initial Site for the Scheme, Mumbai

PART 1: ASHRAY Programme

MCGM has 27,000 conservancy staff working to keep the city clean and maintain its services. Only 5000 of these staff have been provided houses by the Corporation. Many of these houses are dilapidated and the housing condition is extremely poor. The Solid Waste Management (SWM) Department, in the Corporation has 17 housing plots within the city, 10 in the Western Suburbs and 9 in the Eastern Suburbs. All these lands were under-utilized, unplanned and in some places partly encroached.
The Corporation had progressed in the preparation of a master plan. A detailed survey had been carried-out of all these properties. The data had been critically evaluated and a development vision had been prepared. Professionals have been engaged to prepare the master plan and the redevelopment plans for the different properties to be undertaken in phases.

**Fig. 40: Proposed Layout for the Scheme, MCGM**

By this effort, MCGM would not only provide housing to its conservancy staff with high housing standards but would also immensely contribute to the urban renewal and area development interest of the city at large.

The situation before the initiative was that of poor structural conditions, inadequate infrastructure, underutilized Floor Space Index (FSI), poor environmental conditions and lack of amenities. This led to an urgent need for redevelopment. The tenements required and the shortfalls emerged for housing is given in the table below:

**Table 16: Tenements Required and Shortfalls for Housing, MCGM**

<table>
<thead>
<tr>
<th>Area</th>
<th>Tenements Existing</th>
<th>Tenements Required</th>
<th>Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>2930</td>
<td>13392</td>
<td>10462</td>
</tr>
<tr>
<td>W.S.</td>
<td>662</td>
<td>7896</td>
<td>7234</td>
</tr>
<tr>
<td>E.S.</td>
<td>962</td>
<td>6298</td>
<td>5336</td>
</tr>
<tr>
<td>Total</td>
<td>4554</td>
<td>27616</td>
<td>23062</td>
</tr>
</tbody>
</table>

*Source: MCGM*

**New Approach**

‘ASHRAY’ a project for Conservancy Staff Housing by the SWM Department, MCGM, was launched with the following objectives:

- Provide new houses in place of the old.
- Provide additional housing stock to fulfill the housing shortfall.
- Achieve better and efficient planning standards.
- Provide various social amenities – Balwadi’s, Welfare / Health Care Centre’s, Community Halls, Buddha Vihars etc.
- Provide a better quality of life.
- Achieve higher standards in housing including environmental and energy conscious measures.
- Contribute to the city’s urban renewal effort.
- The redevelopment will enable staff to be housed in their respected wards.
- High standards and building specifications to ensure low maintenance cost.

**Implementation strategies**

- Architect P. K. Das and Associates was appointed for the project who designed the housing structures.

**Fig. 41: Schematic Layout of the ASHRAY Site, MCGM**

Plans for transit accommodation and redevelopment was then prepared.

- Soil investigation quotation was invited by MCGM.
- Utility remarks and city survey demarcation activity was pursued.

The priority sites were marked. They were:
- 64, Jail Road, Umakhadi, B-ward
- 42, Jail Road Transit Camp, B-ward
- Shuklaji Street Municipal Chawl, E-ward
- Tank Pakhadi Marg, E-ward
- 468, N.M. Joshi Marg, E-ward
• Kalpak Plot, F/N- ward
• Prabhadevi Municipal chawl, G/South-ward

Area Statement for the plots is given below:
• Plot Area = 4,545.12 sqmt
• Required Green (RG) = 8% of 4,545.12 sqmt
• 4,545.12 sqmt - 363.60 sqmt = 4,181.51 sqmt
• For Housing = Ground +10
• Total Land Area = 4,545.12 sqmt
• Built Up Area for Housing (Ground +10) = 14,889.32 sqmt
• Built Up Area for Amenities = 224.00 sqmt (7 Units)
• Total Built Up Area = 15,113.32 sqmt
• Therefore, Consumed FSI = 3.80
• Refuge Area = 200.80 sqmt (6 unit)
• Total No. of Dwelling Unit = 394
  [Existing 122 + Surplus 272] – Ground + 10 Floor.

Fig. 42: Layout Plan of the Dwelling Unit, MCGM

A typical re-development example at Tank Pakhadi Road is also given below:
• Amenities provided on ground floor: Balwadi, Library, Maintenance Office, Health Outpost, Community Hall, Co-Opporative Store
• Built Up Area For Amenities = 360 sqm (10 Units)

Basis / Reasons for Phasing:
• City plots.
• State of dilapidation.
• Available open space to start construction and create transit within.
• Under utilized FSI.

Achievements and Results

Transit accommodation and shifting scheme has being worked out.
By end of year 2008, the work on Transit Camp and priority sites had commenced.

PART 2: ADHAR KENDRAS

New Approach

The project introduced the concept of “Adhar Kendras” in 10 slums in Mumbai. The Adhar Kendra is a concept of a Resource Centers with the following features:

• Display platform for products and services.
• Employment exchange for the urban poor.
• Training/skill development centers.
• Coupled with Citizen Facilitation Center (CFC) to get adequate footfalls.
• Originated from Suvarna Jayanti Shahari Rozgar Yojna.

Fig.43: Concept of Programme, MCGM

MCGM is the first Municipal Corporation to take this unique self-employment initiative for the urban poor that mainly focused on women, poverty alleviation and self-employment. This experiment was initiated so far by various organizations like SMILE Pune, Ek Mauka Udaan, Ahmedabad, etc. The State Government of Maharashtra is taking a cabinet decision to implement the ‘Adhar Model’ in all Municipal Corporations and Councils in Maharashtra. MCGM had played a dynamic role in the project and provided site and necessary infrastructure for the project. It also increased the footfalls by
providing web-enabled citizen services on the line of CFCs. NGOs with prior experience were selected to lead the programme.

**Fig.44: Resource Center of the Programme, Mumbai**

### Implementation Strategies

- **CFC:** The services offered under the one-window system are as follows:
  - Birth/Death certificates.
  - Accept demand for water connections and other civic amenities.
  - Accept permission requests – Lofts, Mandaps, digging etc.
  - Accept License requests.
  - Payment of various Municipal bills, fees, charges etc.
  - Information kiosk.
  - Complaint registration and follow up.

- **Role of NGO Services:**
  - Poverty mapping of the ward.
  - Market survey of skill sets available and needed.
  - Top up – Skill training program.
  - Police verification of candidates.
  - Inputs to Yellow pages directory on net.

- **Role of NGO in the area of Skill Development:**
  - IT-enabled services (Business Process Outsourcings, Operators, Data Entry).
  - House Keeping, Stewards (Hotels).
  - Customer relations and sales (Malls, Shops).
  - Refrigeration and air-conditioning, mobile repairing, laundry, electrician, plumbers, hawkers, petty traders, casual labourers, Sports coaches (Housing Societies, Gymkhanas, clubs).
  - Drivers (Rickshaw or private vehicles, tempos).
  - Tailors and Master Embroidery – cloth market.
  - Child/patients care, Household works.
  - Cooking, Mid-day meals, Tiffin services, food products.
  - White good services.
  - Packaging, labeling.
  - Cleanliness maintenance.

**Fig.45: Skill Development and Recruitment Centers for Urban Poor, MCGM**

- **Role of NGO in Product Improvement:**
  - Product – standardization.
  - Packaging.
Designing products.  
Branding products.  
Display and getting orders.

Achievements/Results

- MCGM has already begun to identify demand trends and to train underprivileged slum youths accordingly. MCGM has tied up with private organisations to train youths in work, basic spoken English and personality development. The civic administration is already getting enquiries from companies willing to hire these candidates.

- 150 IT companies, factories and companies as well as residences and stores between Bandra and Borivali have been identified that will have these youths.

- MCGM has also provided a platform to women’s self-help groups and unemployed youths to link the services they offered to those who may want them. The first two centers, in Andheri and Vile Parle, have been inaugurated. The employment mapping was centered on these locations.

- Select NGOs are helping MCGM in the mapping and is also providing aid to the civic body and in training candidates.

- Candidates are being divided into batches of 20 for the training. A three-month course on spoken English and personality development is also being provided.

Contact for Details:

Shri Anil Diggikar, I.A.S  
Additional Commissioner (Project),  
Municipal Corporation of Greater Mumbai,  
3rd floor, Annexe Building, Mahapalika Marg, Fort Mumbai - 400 001  
Ph.: 022 - 22620809  
Office: 022-22620251 ext. 2313  
Email: amcpoffice@rediffmail.com
Urban Reform
Title of Best Practice:
Trade License in Bruhat Bangalore Mahanagara Palike

State/City: Karnataka, Bangalore
BP Code: URF-###-###-1424-0310

Previous Status

The preservation of public health is one of the most important functions of civic authority in India. To regulate public health, the Karnataka Municipal Corporations Act 1976 had enforceable rules to protect the health and safety of workers, consumers, and the population at large. To monitor businesses that have a direct bearing on public health, Schedule X of the Act listed trades that require license before commencing the trade. Trade license, is thus an Administrative Act whereby a municipality's permission is required to conduct trades in certain goods and services. If persons engaged in any of the schedule trade fail to obtain a trade license, then, to preserve public health such unlicensed trades are to be summarily shut down.

Box: Section 353 of the Karnataka Municipal Corporation Act 1976

Section 353 of the KMC Act 1976 specifies that:

“No place within the limits of the city shall be used for any of the purposes mentioned in Schedule X without a license obtained from the Commissioner and except in accordance, with condition specified therein”.

Under the KMC Act, Bruhat Bangalore Mahanagara Palike (BBMP) is the competent public health authority with a mandate to promote, protect and improve the health of people within its jurisdiction. The duty of the issues of traded license in BBMP is vested with the Health Department, which issues license to a broad range of professions, trades and occupations. Earlier, they licensed from health care institutions (e.g., hospitals, nursing homes, laboratories and diagnostic centers) to people engaged in trades or occupations that affect the public’s health and safety (e.g., barbers, beauty parlor, Dobhi boarding, lodgings places, articles of food and drink). They also licensed industries that run on motive power in order to regulate the environment issues that such industries can cause.

Initially, the process of issue of trade license in the past was cumbersome leading to complaints of delay and official harassment. The issue was simplified with the introduction of “Sarala Udyama Parvanagi” in the year 2003. In 2007, to coincide with the Suvarna Karnataka celebrations, the trade licenses scheme was further simplified under the ‘Suvarna Arogya Paravanige’ scheme. However, under this scheme, generating consolidated report like trade licenses issued, license fee collected, balance amount to be received from each category, etc. was time consuming and prone to mistakes as all the relevant information was available in different registers. Further, tracking of expired trade licenses was time consuming and Trade License Certificates were issued to traders in written format. Therefore, a new system of online issue of trade license has been introduced in the city.

New Approach

BBMP undertook extensive reforms in trade license by reducing time to only seven days as well as documentary evidence to two, viz, property owner’s consent and immediate neighbor’s consent, and increasing fees. Site inspection under this scheme is mandatory within three working days. Under the new system, for a limited period each year, trade license is automatically renewed and issued within 24 hours. For new applicants the trade license is issued within 7 working days. In the past if one carried on multiple trades one had to apply for separate license for each of the trades. Now, under this new scheme, only one license will do for multiple trades. However, one has to pay a compounded fee equal to twice the highest fee payable for the trades/commodities dealing with in the same premises.
BBMP has installed a trade license software which is a web based application developed on Microsoft platform using ASP.Net for the client interface and MS-SQL server 2005 for the backend database, in association with NIC. The applicant will submit the application physically along with the required documents like occupation certificate, Khata certificate, Tax paid receipt, neighbour concern, if a trader is a tenant then owners concerned along with the prescribed fees. This application will be entered online and if it meets all the pre-requisites it will be forwarded to the Medical Officer of Health (MOH). MOH will verify the application and the place and depending upon the type of trade it will be forwarded to Health Officer for approval and issues of the license with the digital signature. For the renewal of the license the applicant can apply online and this has to be approved by concerned MOH within two days and the payment will be through payment gateway using either credit or debit card.

**Goal of the Programme**

BBMP issued the health trade license on 1st April 2007, to trades to acquire categorized license for trading in a simplified manner with reasonable and applicable license fee for carrying out trade in the urban area. This has now been made online to achieve the following goals:

- To provide fast and efficient online service to traders.
- Automate the complete process of issuing trade licenses.
- Centralise all the data relevant to trade licenses.
- Error-less and reduce time taken to generate consolidate reports.
- License renewal or cancellation alerts to traders via SMS.
- Digital Signature Certificate.
- Online renewal of trade license and integration of Payment gate-way.
- Sharing of information within the organization (property tax and trade license system).

**Implementation Strategies**

Under the new scheme, the following strategy is followed to implement the procedure –

- The license issued expires on the 31st March each year.
- The traders need to apply for renewal before last of February each year. Applications received from the last day of February till the 31st March will be automatically renewed.
- For new applicants, the trade license was issued within 7 working days.
- Clear guidelines on how to apply for renewals and the process for applying for new licenses were explained in a booklet.
- To cut down on paper work, the number of documents filed had been reduced and a simple application form was devised online.
- To avoid ambiguity, trades had been re-classified and the fee specified against them had been restructured.
- The license fee for the trade was last revised in the year 1999. Reasonable fee structure for procuring trade license to meet the cost of enforcing the duty of securing public health was enforced.

**Fig. 46: Booklet for Trade License, BBMP**

**Fig. 47: Online Application Form for Trade License, BBMP Website**
I. Following are the procedures to obtain a new license:

- The handbook contained the schedule that is liable to obtain a license. The license fee for each of the trades listed is also specified. License fee as prescribed in the schedule has to be paid through the online payment gateway using either credit or debit card.

- If the applicant is a tenant of a property, he will need to file the owner's consent on a plain paper or letterhead. The owner has to file a copy of the latest property tax paid receipt in proof of ownership.

- At the time of filling the application, if the trade falls under residential zone of the zonal regulation and if such trade is permitted in residential zone, then the applicant has to obtain immediate neighbor's consent on plain paper. In the absence of neighbors consent, license will not be issued. However, for application for trade in commercial zones, no such consent of the neighbour is required.

- The applicant is also required to file a layout plan of the trade premises showing the business, working, washing, resting, toilet areas, etc. This layout plan can be certified by any licensed architect / engineer / supervisor. However, other than hotels and restaurants, if the area of the trade premises is less than 500 square feet, certification of the layout plan is not required.

- If the applicant is using motive power, then a power license is also required. The application form has a column of power license that needs to be filled mentioning the power capacity/load. The fee applicable depending on the KVA / HP of the power sanctioned.

- On the date of filing the application itself the authorized officer will set the date of inspection of the trade premises. The maximum time set for inspection is set within 3 working days. The authorized officer will come for inspection with a checklist to verify if all compliances required for the trade are met.

- After the trade premise is inspected and if found satisfactory, the online generated trade license will be issued within 3 working days thereafter. If the inspecting authority has any objection, he will issue an endorsement to correct the defects. Once the defects are corrected satisfactorily, the trade license will be issued within 3 working days.

II. Procedures for applying for trade license renewal.

The traders need to apply for renewal before last of February each year. Applications received from the last day of February till 31st March will be automatically renewed. The applications submitted after March 31st will be renewed only after inspection of the trade premises besides a penalty of 25% of the license fee. Once the authorized officer is satisfied the license will be issued physically. Under the automatic renewal period, the trade premises will not be subjected to any inspection by the BBMP. However, this is subject to the applicant giving an undertaking on plain paper to the effect that the trade is being carried out as per the byelaws. The procedure to avail the automatic renewal is as under:

- After filling up the online application form for renewal, the applicant has to give an undertaking on plain paper to the effect that the trade is being carried out as per the byelaws.

- The renewal fee for the respective as specified in the schedule is to be paid through the online payment gateway using either credit or debit card.

- The documents to be enclosed along with the application are to be submitted at the Special Centers (Trade License Renewal Clinics) in all business centers during the period of automatic renewal.

- On receipt of the application for renewal, the respective centers issue a Digital Signature Certificate.

- If the renewal application is not furnished during the automatic renewal period, the applicant will have to file the application addressing the respective Medical Officer of Health. If payment is made within three weeks, from the date of closure of the automatic renewal, the applicant has to pay
a penalty of 25 percent of the license fee in addition to the renewal fee payable. For renewal, applications received after this period, for a further period of 3 weeks, subject to a penalty, 100 percent of the renewal fee is payable as penalty. No renewals will be made after this period and the premises that have not obtained renewal license will be sealed. Such trade will have to apply for fresh license and follow the prescribed procedure.

- Renewal will be made after inspection of the trade premises. The inspection will also be in the same format as the undertaking. If the Medical Officer finds that the trade premises are not as per the byelaw, he will issue an endorsement giving his reasons for not issuing the renewal. The applicant has to comply with the objection and then inform the Medical Officer. If the objections are complied, the renewal license will be issued the same day.

**Fig. 48: Online Trade Renewal Form, BBMP Website**

At BBMP, software has been developed to overcome all issues concerned with issuance of Trade License. Trade license software is a web based application developed on Microsoft platform using ASP.Net for the client interface and MS-SQL server 2005 for the backend database which has been developed in association with NIC. There are three main activities involved in trade license i.e., issuing of new trade, Renewal of trade license and Cancellation of trade license. After the applicant submits the application physically along with the required documents, this application will be entered online and if it meets all the prerequisites it will be forwarded to the MOH. For the renewal of the license the applicant can apply online and this has to be approved by concerned MOH within two days and the payment will be through payment gateway using either credit or debit card.

MOH will verify the application; the place and depending upon the type of trade it will be forwarded to Health Officer for his approval and issues the license with the digital signature. Training on the above system has imparted to all Health Officers, Medical Officers of Health and Data Entry Operators. Historical data is gathered and entered into the system. Integration of payment gate-way for online payment has also been developed. Technical support from NIC was provided to BBMP for this activity.

**Fig. 49: Online Trade Inspection Form, BBMP Website**

**Outcome**

- Speedy issue of license.
- More transparent and accountability.
- Demands can be raised.
- Central monitoring can be achieved.
- User/ trader friendly.

**Challenges / Constraints encountered**

One of the main challenges encountered was the non-licensed traders who did not issue a trade license. As per the KMC Act, running an unauthorized trade is an offence. The concerned authority may seize or lock the trade business with or without intimation. Therefore, this was strictly followed where, any person who is convicted of an offence in respect of the failure
to obtain a license or permission or to make registration as required by the provisions of the Act, as a penalty, the person in addition to submission of a fine will also hand over the recovered trade to BBMP. Therefore, under the law, it is mandatory to apply and obtain a trade license from the jurisdiction Health Officer. If one contravenes then, the jurisdiction Health Officer or any officer authorized by the Commissioner can immediately close or seal the trade premise until such time license is obtained.

Achievements / Results

With the increased revenues from the license fee, it has been proposed to set up new food testing-laboratories and have arrangements with other food and chemical testing agencies that conduct specialty tests of products that poses health concerns. It is also proposed to have special squads to check for non-compliance to public health norms. Such frequent checks will help to regulate trade and industry that have a direct bearing on public health. However, this responsibility for protecting the public health system cannot be achieved without the active participation and cooperation of the citizens, public and private sectors.

Impact of Best Practice

In a study made by NIUA, it was concluded that Bangalore took 5 days to obtain trade license followed by Mumbai (10 days) and Ludhiana (11 days). In comparison Trivandrum, Kolkata and Delhi took over 2 months. The impact of the reforms is highly evident in case of Bangalore. Surat accounts for the least cost of obtaining trade license, followed by Ludhiana and Bangalore. The low cost in Surat and Ludhiana is due to the absence of regular revision in the license fee rates. Bangalore on the other hand has maintained a low license fee even after introduction of the reforms.

Fig. 50: Time and Cost for Securing Trade License, BBMP

Table 17: Documents needed for issuing of Trade License in different cities in India

<table>
<thead>
<tr>
<th>Cities</th>
<th>Documents Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangalore</td>
<td>Application Form; Owners Consent along with proof of ownership in any form viz., Tax paid receipt, Khata extract, Sale deed etc.; Neighbors consent in respect of any trade in a residential zone even if it is a trade permitted in the residential zone as per the Comprehensive Development Plan (CDP).</td>
</tr>
<tr>
<td>Delhi</td>
<td>Documentary proof of legal occupancy of the unit; Documentary proof of establishment of trade w.e.f. the date; Site plan ; Key Plan; Documentary proof of existence of firefighting equipment at the unit (NOC); Documentary proof regarding non-existence of unauthorized construction at the unit on or before 30.6.1977 (NOC); Indemnity Bond for Rs.100/-; Affidavit for Rs.10/-; NOC from land-owning agency; Deed of constitution.</td>
</tr>
<tr>
<td>Indore</td>
<td>Application form; Address Proof, Rent Agreement if premises is rented/ Proof of ownership.</td>
</tr>
<tr>
<td>Kolkata</td>
<td>Application Form with Signature, Date, Seal and Name/s of Proprietor/ Partner(s)/ Director(s) / Karta / Manager; Photocopy of the current rent receipt/challan from Rent Control (for tenants) or current KMC Property Tax Receipt / Bill (for owner of the trading premises); In case of rent-free trading spaces, current consent letter in original, mentioning the area along with Current CE (certificate of enlistment) of the consenter conducting any trade along with current Rent Receipt / Receipts from Rent Control or current KMC Property Tax Receipt / Bill of the Consenter; Copy of agreement / Certified copy of conveyance Deed or in case of IGR (Inspector General of Registration; For trading space in any (1) Govt. Markets, (2) KMC Markets, and (3) Govt. campus like campus of KMC, Calcutta Port Trust, Calcutta Improvement Trust etc CE can be issued only in the name of actual tenant; no consent or sub-tenancy will be entertained in such cases; for trading space in Co-operative Housing Society the consent letter from Secretary of the Co-operative Society / Appropriate Authority is required.; For trading spaces in Govt. Housing Estate, current clearance from Housing Estate Manager; For issuing new Professional Licenses, documents confirming the profession; The trade, which attracts, Amusement Fees, Water Charges (I.C.I./Metered), Sewerage and Drainage Charges and Solid Waste Removal Charges separately.</td>
</tr>
</tbody>
</table>

1. Doing Business with City Governments; Preparation of Guidelines For Model System For Procedures under Dealing with Licenses and Registering Property; Research Study No. 109; National Institute of Urban Affairs (NIUA), New Delhi; September 2008
Table 18: No Objection Certificates (NOCs) needed for issuing of Trade License in different cities in India

<table>
<thead>
<tr>
<th>Cities</th>
<th>NOCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangalore</td>
<td>Owners Consent along with proof of ownership in any for viz., Tax Paid Receipt, Khata extract, Sale deed etc.; Neighbors consent in respect of any trade in a residential zone even if it is a trade permitted in the residential zone as per the CDP.</td>
</tr>
<tr>
<td>Delhi</td>
<td>Documentary proof of existence of firefighting equipment at the unit (NOC); Documentary proof regarding non-existence of unauthorized construction at the unit on or before 30.6.1977 (NOC); NOC from land-owning agency.</td>
</tr>
<tr>
<td>Indore</td>
<td>Property tax clearance receipt, water tax clearance receipt.</td>
</tr>
<tr>
<td>Kolkata</td>
<td>Different types of NOCs are to be required for different Red Category trades.</td>
</tr>
<tr>
<td>Lucknow</td>
<td>NOC from the neighbors of the locality; Water Testing report (only in case of hotels, barat ghar, dharamshalas).</td>
</tr>
<tr>
<td>Ludhiana</td>
<td>No-objective certificate from the neighbors in case of premises falling outside the specified area or in the residential areas.</td>
</tr>
<tr>
<td>Mumbai</td>
<td>NOC from CFO and Commissioner of police.</td>
</tr>
<tr>
<td>Ranchi</td>
<td>Not required.</td>
</tr>
<tr>
<td>Surat</td>
<td>If trade is carried on with the help of Electric Motor Power then NOC from Director of Industries, Government of Maharashtra, NOC issued by A.E. (Building and Factory) under Section 390 of M.M.C. Act and NOC form.</td>
</tr>
<tr>
<td>Trivandrum</td>
<td>Sanction from Council; Structural stability of the building from PWD Authorities; NOC from Pollution Control Board; NOC from Health Authorities. NOC from neighbors residing, 100 m of radius.</td>
</tr>
</tbody>
</table>

Source: Doing Business with City Governments; Research Study No. 109; NIUA; September 2008
Title of Best Practice: Municipal GIS: Gorakhpur Experience

State/City: Uttar Pradesh, Gorakhpur
BP Code: URF-###-9##-2874-0310

Previous Status

Gorakhpur Municipal Corporation (GMC) lacked any form of visual representation of data. It possessed a map of the ward boundaries lying within the Municipal Corporation limits (extracted from the Master Plan for Gorakhpur). As a result, a 1913 Revenue Map had to be dug up every time a problem arose in the field or there was a property dispute.

The Corporation’s computer database did not include any information pertaining to assessment of a property and therefore, the judgment of the Tax Inspectors and the clerical staffs had to be relied upon. Thus crosschecking of this information was extremely tedious. So, looking up ledgers or visiting the site were the only alternatives found. The property number allocation, which many a times was done by the clerical staffs, without even visiting the site, made it extremely difficult for the Tax Inspectors to locate the properties in the field. Thus, there was no visual link between the location of a property and its corresponding data, rendering all forms of visual analysis impossible.

New Approach

In order to develop a model for Municipal Geographic Information System (GIS) in Uttar Pradesh, Gorakhpur was taken up as a model city. When the Gorakhpur GIS came into being, the only other much talked about GIS for a city was that of Mirzapur. But the realities of the city of Mirzapur were different from that of Gorakhpur in the sheer size of the problem. Mirzapur was a city with a population size of 2 lakhs and 23,950 properties whereas Gorakhpur had a population size of 6 lakhs with 67,155 properties.

GMC is financially stable, unlike most ULBs in India. Thus, the fact that a Municipal GIS is self-generating, and the adulation that the Mirzapur GIS had received, acted in its favor and the pilot phase of the Gorakhpur GIS was undertaken. In order to further augment the coffers of the GMC, Society for Planning and Research in Sustainable Management (SPRISM), developed a successful intervention package that included immediate property identification and reassessment for Gorakhpur.

Goal of the Project

The primary program objective was the proper enumeration and mapping of all properties, using GIS as a tool.

Implementation strategies

GMC had divided the city into 8 circles but only 2 out of the 60 wards of the 1991 Census Map were taken into consideration. The Map generated from this project was used by other departments as well. The Wards covered were Civil Lines Wards I and II (Ward No. 45 and 48) comprising of the three Mohallas of Civil Lines, Bilandpur and Kalepur. The area houses approximately 2% of the total properties in the city.

Property Enumeration and Mapping – The Methodology

After a rapid inventory of all available information, the first step was to prepare a Base map of the study area from the 1972 Survey of India Map at the 1:20,000 scales and the 1913 Revenue Map at the 1:6,490 scale (the only maps available for Gorakhpur City) by scanning and enlarging them. This enlarged map had property locations notionally superimposed on it. New numbers were allotted to un-assessed properties and then the second step of cross checking the computer data began. This involved conducting a fresh property survey on the basis of a questionnaire and the data thus collected was checked, corrected and fed into a MS Excel sheet at the end of each day. Thus, all information pertaining to a property was
collected and stored. Infrastructure related informations (availability of water, sewer and electricity connections) was also collected and stored. The surveyors even attempted to sketch the plan of each property, for future reference and comparison.

**Fig. 51: The Study Area, Gorakhpur**

---

**Outcome**

- **Assessment of Existing Properties**

While the computer records of the Municipal Corporation, revealed 1,073 properties in the Civil Lines Wards I and II, the survey located 1,366 properties. The study showed that while 3% (41) of the properties in the Corporation records were non-existent, 21% (284) of the properties in the area still remained unassessed. The maximum number of unassessed properties were in the newer Bilandpur Mohalla, accounting to 11% (156) of the total records. But the unassessed properties in the older Civil Lines Mohalla were no less, 7% (98) of the total records. This gap between the assessed and unassessed records were sufficient to justify the enumeration.

- **GIS to Increase Revenues**

The first use of the new Gorakhpur GIS was to facilitate the municipal property assessment. Information on property billing and arrears obtained from GMC was also attached to the maps.
According to the figures based on current Annual Ratable Value (ARV) applicable in Gorakhpur, 72% property owners in Bilandpur and 66% in Kalepur had property tax arrears pending towards the Corporation and maximum cases were in the range of Rs.1-3000 (as on 30-06-2000). Properties were further divided on the basis of land use, type of construction, year of construction, year of stay, location of property, availability of basic amenities, covered area and carpet area.

- **Financial Gains**

Irrespective of the reassessment stumble, financial benefits projected for the GMC were tremendous. All calculations were made in accordance with the 27% tax levy on the residential population.

**Table 19: Financial Justification, Gorakhpur**

<table>
<thead>
<tr>
<th>Head/ Mohalla</th>
<th>Civil Lines</th>
<th>Bilandpur</th>
<th>Kalepur</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>15,652</td>
<td>2,158</td>
<td>3,983</td>
<td>21,794</td>
</tr>
<tr>
<td>No. of Un-Assessed HH</td>
<td>98</td>
<td>156</td>
<td>30</td>
<td>284</td>
</tr>
<tr>
<td>Expected ARV (Rs.)</td>
<td>1,533,958</td>
<td>336,794</td>
<td>119,490</td>
<td>1,990,243</td>
</tr>
<tr>
<td>House Tax (12%AR)</td>
<td>184,075</td>
<td>40,415</td>
<td>14,338</td>
<td>238,829</td>
</tr>
<tr>
<td>Water Tax (12%AR)</td>
<td>184,075</td>
<td>40,415</td>
<td>14,338</td>
<td>238,829</td>
</tr>
<tr>
<td>Sewer Tax (3%ARV)</td>
<td>46,018</td>
<td>10,103</td>
<td>3,584</td>
<td>59,707</td>
</tr>
<tr>
<td>Estimated Property Taxes (p.a.)</td>
<td>414,168</td>
<td>90,934</td>
<td>32,262</td>
<td>537,365</td>
</tr>
</tbody>
</table>

Source: GMC

The Financial benefits accruing towards the GMC, as seen above, amount to Rs. 5.37 lakhs for the two wards. In order to make the projections for the entire city realistic, the total number of unassessed properties within the city had been considered. This amounted to Rs. 70 lakhs for the entire city (20% of total properties are unassessed, excluding an estimated 2% nonexistent records and taking an average ARV of Rs.2,000 as the datum value). The property reassessment, that will be mandatory for this project to be of any value, will also add a further Rs. 82 lakhs to the coffers of the Corporation (estimated that a minimum 25% of the current properties will need reassessment, and the increase in ARV will be a minimum of Rs. 500).

**Lessons learnt**

- Since this exercise was not a one-time operation, it was necessary to train the staff in order that the project could stay alive.
- Record keeping, reporting, monitoring task are simplified.
- Meticulous planning of the whole program is very much necessary for the process of implementation to move easily with focus/direction.

**Resource Mobilization**

The Pilot Phase of the project was a joint venture of SPRISM with GMC. The benefits derived from the unassessed properties as well as from the reassessment exercise will be able to cover the costs of the project.

**Sustainability**

The program lends itself to sustainability because the magnitude of financial benefit from this is enormous and assessment and payment of property taxes is a very transparent system with no loss of any credibility of the local government through this system.

**Replicability**

After successful completion of the Gorakhpur GIS Pilot Phase, the results were presented to the then Chief Secretary of the State, who suggested that Municipal GIS should be initiated in all the 11 Kaval towns in the State. Bidding took place and work has started in few cities.

**Contact for Details:**

Mr. Javed Anwar Siddiqui  
Mr. Anurag Agrawal  
Computer Section,  
Gorakhpur Nagar Nigam  
Uttar Pradesh-273001  
Mobile: 09415258953  
Mobile: 09335069148
Title of Best Practice:
PPP Initiates for Property Tax Collection in Mehsana Nagarpalika

State/City: Gujarat, Mehsana
BP Code: URF-###-3##-0866-0310

Previous Status

Mehsana Town is the district headquarter of Gujarat. It hosts Dudhsagar Dairy, a Milk Cooperative; Oil and Natural Gas Corporation Limited (ONGC) and the main industrial centres of India. Mehsana Nagarpalika was established in 1919-1920. At that time, the administration was based on the Bombay District Municipal Act, 1920. On 1st January 1963, the Gujarat Nagarpalika Act, 1963 came into being and formed the basis of current administration.

Presently, Mehsana Nagarpalika (MN) holds the position among A-grade Nagarpalikas in Gujarat and covers an area of about 12.87 square kilometers. As per the census 2001, the population is 99,880. Since the last decade, the population growth rate is 12.2 %. Currently, new areas have also been merged in the Nagarpalika limits and the estimated population is 1, 41,532. The services are implemented and managed by dividing the Nagarpalika into 14 wards.

Financial management is essential for proper administration of the Nagarpalika and initiation of new services, which included taxes, government assistance and grants as well as user fees from the service user groups were required. Property Tax is an important source of income from taxes for MN. In Mehsana city, 70,000 properties are residential and rest was non-residential. Just like most of the other Nagarpalikas of the city, there were several errors in collection of taxes like error in assessment of properties through rent system; many properties were not assessed; lack of tax payment by people; deficiencies in the Nagarpalika structure for collection of tax from people; no provisions of incentives for regular tax payers; etc. Due to this situation, as per the assessment of taxes by MN, in the year 2001-2002, Rs. 86.11 lakhs (17.15%) were collected against the outstanding amount of Rs.175.25 lakhs.

New Approach

Income from taxes, is an important source of income for any Nagarpalika to implement development works within the city and improvement in the quality of available services. MN also realised the need to increase the percentage of recovery of taxes and development of simple and transparent methods of tax assessment. The Nagarpalika decided to initiate changes at three levels:

- Changes in the current tax collection rules and policies.
- Changes in structure and system of tax recovery.
- Steps to motivate tax payers.

Implementation strategies

A. Pioneering Effort to Provide for Rebate and Penalty

For the first time, MN initiated provisions of rebate and penalty for tax collection in 2002-2003. As per the Municipal Rule 275 (Rule - 5) a resolution was passed in the general body
meeting of the Nagarpalika and a proposal for changes was sent for approval to the State Government. Discount for regular tax payers and penalty for defaulter was proposed. This change was approved by the State Government on 11th July 2003 and was implemented by the Nagarpalika in 2004-2005. The new system was as follows:

1. Payment within 30 days of receipt of bill - 10% rebate in bill amount.
2. Payment within 90 days of receipt of bill - no rebate and no penalty.
3. Payment after 90 days of receipt of bill - a penalty of 18% of bill amount.

Fig. 55: Property Tax Collection after Discount and Penalty Scheme, Mehsana

After the provisions for rebate and penalty by the Nagarpalika, compared to the year 2001-2002, an increase of Rs. 91.67 lakhs of tax collection was observed in the year 2004-2005.

B. Appointment of a Private Agency for Tax Collection for the First Time in the State

After making provisions for rebate and penalty, the tax collection of MN could be increased from 17.15% to 69.99%. But still several tax payers did not pay their taxes. Collection of taxes from defaulter took substantial time. Due to inadequate staff, the Nagarpalika faced problems in tax collection. In 2005 - 2006, in order to solve this problem, the administrator of MN, Mr. A. V. Trivedi, invited tenders and selected a private agency for tax collection and the work began on 7 November, 2005. In the first agreement between the Nagarpalika and the private agency, 3-5% of the collected income was to be given to the private agency. Later, changes were made in the system and currently, S. R Chudhari Pvt., private agency is collecting the taxes.

Fig. 56: Property Tax Demand and Collection, Mehsana

* Water tax and gutter tax are included in property tax.
** The information for the year 2009-2010 is till November 2009
Source: Mahsana Municipality

C. Terms and Conditions between the Nagarpalika and the Private Agency

1. The private agency is selected by the Nagarpalika through a tender process from the agencies interested in collection of taxes.
2. The private agency is allotted the job of the previous year’s tax collection after the new year begins. From the list provided by the Nagarpalika, the agency first collects taxes which are from properties having huge amount of taxes.
3. As per the agreement with the agency, the agency has to collect at least Rs.15 lakhs of taxes per month in the financial year. The agency is paid 3.5% of the collected taxes as per the current agreement. On collection of monthly taxes of more than 15 lakhs, the agency will be paid 4% of additional amount collected as commission charges.
4. The agency shall collect the taxes by cheques only. No taxes will be collected from the tax payers in cash.
5. A door-to-door collection process for property tax collection is performed by the private agency.
has recovered Rs. 4,13,61,207/- from 2005-2006 to 2009-2010 for the Nagarpalika. But due to introduction of the Area Base Property Tax Assessment System during 2008-2009, the percentage of tax recovery was affected as the Nagarpalika limits increased.

D. Implementation of Area Based Property Tax Assessment System

As per the provisions of the Gujarat Municipality Act 1963, the annual rent of the property was assessed and the taxes were collected by the Nagarpalika as per its fixed rates and education cess of the Government. As the Nagarpalika did not have clear measurements or systems for tax assessment for the annual rent of self-owned properties, inequality was observed in calculation of annual rent. So the State Government initiated Area Base Property Tax Assessment System in 2008-2009.

In this system, the owner of the property has to pay taxes for the place used by self. Following this, rates have been fixed for each factor such as ownership of the place used, type of property, age of property and area. In this way the tax payer herself/himself can assess the tax of the property. The Mehsana Nagarpalika has considered the following to implement the Area Base Property Tax Assessment System:

- For Area Base Assessment System the Stat Government had fixed the basic rate from Rs.5-10 per residential unit. Mehsana Nagarpalika fixed the minimum tax assessment rate of Rs.5/- . The assessment rate for non-residential properties has been fixed between Rs. 8 -15/- .
- For location factor, in order to benefit the poor people, the areas of the city have been categorized. Properties having revenue survey number have been included in A category; Old village area has been categorized in B and slums and under developed area have been categorised in C category.
- It was observed that in Mehsana city big buildings are owned by a single person and had multiple assessment numbers in Nagarpalika records.
- Since the Area Base Assessment System was introduced for the first time, there are errors in the assessment of properties even today. But since reassessment cannot be done till four years after the assessment, no changes can be done at present. But since MN involves tax payers, the errors in the system are brought to notice by the citizens and corrections are made by the Nagarpalika.

E. Leadership provided for Successful Implementation

The work of Property Tax Reforms began in MN from the year 2002-2003 with guidance from the Chief Officer, Mr. Sanjay Soni and Tax Superintendent, Mr. Kanubhai N. Barot. The Deputy Collector, Mr. A.V. Trivedi initiated the process of appointing a private agency for tax collection. The current Chief Officer, Ms. Meetaben Brambhatt, former President, Mr. Ashokbhai Chaudhri and the current President, Mr. Girishbhai Rajgaur contributed significantly to rectify the errors in these reforms and effective implementation.

Achievements / Results

The following results could be observed based on the tax reform work initiated by MN:

- In the year 2001-2002, the tax recovery was 17.15% which has been increased to 94% through these innovations.
- MN implemented the Area Base Property Tax Assessment System considering the area and conditions of the city. As a result people were relieved of tax burden and the income from tax recovery increased.
- Due to increase in the income of Nagarpalika, expenditure could be done to improve the quality of civic amenities which includes regular payment of monthly bill of
Rs. 25-30 lakhs for water from Narmada; regular payment of monthly bills for water works and street light of Rs. 20 lakhs.

- Since MN has appointed a private agency for tax collection, Rs. 4, 13, 61,207/- have been collected against the taxes which were outstanding since last five years.

- In addition to the appointment of a private agency, introducing a computerized system at the Nagarpalika level, a team of only five people are able to work easily.

- The citizens realised that the ULB involves them and keeps their benefit in the first place; their trust in the Nagarpalika has increased.

- As the system of property tax has strengthened, a thought of introducing property transfer fee has come. The Nagarpalika collect Rs. 15 lakhs annually as property transfer fees.

**Box: Tax Payers Incentives at Mehsana**

*Recovery of Rs. 75 lakhs in a day:*

Mehsana Nagarpalika declared the last date for submitting the property tax. Tax payers rushed to avail the discount promised. As a result on 23/12/09, Rs.75 lakhs were deposited, which is the highest amount deposited till date.

**Sustainability**

In this approach, the objective of the Nagarpalika is not to increase the income from property tax but through a systematic effort, create a just and transparent system. Effort has also been made to use newer technologies and create a speedy and simple system. People have been involved in all the reform processes and since their consensus has been obtained, the trust in sustainability of this effort also increases. MN has been successful in achieving its objective of creating a system for tax recovery from the people. The ULB has to plan to return this income from taxes, to the citizens in form of basic structural services to maintain the enthusiasm of tax payers and trust in the system of Nagarpalika.

**Lessons learnt**

- ULBs can use newer technologies and develop systems, to improve their economic condition and create an environment of trust among people.

- Employees of the ULBs need to be motivated and provided an opportunity to learn new methods, skills and therefore, work effectively.

**Impact of Reform**

- Identification of properties, administrative simplification and relief to people.

- Develop software which provides every household with a unique Identity card which includes information regarding their property tax, details of birth and death, professional license, professional tax, gumasta dhara license, health certificate, etc. which could be accessed through a unique code at the ULB level. This will help people to obtain all types of documents and the ULB will also be able to access multiple information which will speed up the work and therefore, the process of recovery will be easier.
# Contact for Details:

<table>
<thead>
<tr>
<th>Ms. Trupti Jain</th>
<th>Shri. Girish Rajgoar, President</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Director</td>
<td></td>
</tr>
<tr>
<td>City Managers’ Association Gujarat</td>
<td></td>
</tr>
<tr>
<td>Ahmedabad Municipal Corporation</td>
<td></td>
</tr>
<tr>
<td>West Zone Office, Usmanpura Cross Roads,</td>
<td>Mehsana Nagarpalika</td>
</tr>
<tr>
<td>Ahmedabad - 380 013</td>
<td>Mehsana, Gujarat</td>
</tr>
<tr>
<td>Ph.: 91-79-27561184/85</td>
<td>Mobiles: 09426514222, 09825025604</td>
</tr>
<tr>
<td>Ph.fax: 91-79-27551595</td>
<td></td>
</tr>
<tr>
<td>Mobile: 09925007097</td>
<td></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:trbjain@yahoo.com">trbjain@yahoo.com</a></td>
<td></td>
</tr>
</tbody>
</table>
Title of Best Practice: Payroll System in Bruhat Bangalore Mahanagara Palike

State/City: Karnataka, Bangalore
BP Code: URF-###-###-1424-0310

Previous Status

The Bruhat Bangalore Mahanagara Palike’s (BBMP) strategies have been guided by the objective to implement administrative, legal and managerial reforms for mobilizing internal and external financial resources, implement budget reforms with a “bottom up” approach in order to strengthen responsibility, accountability and need for justification in the budget making process, to introduce result-based performance orientation in the financial management systems of the corporation and to facilitate citizens cooperation and involvement by introducing transparency and simplification in the financial management system.

One such initiative of BBMP was the implementation of the Payroll System. Prior to implementation of the Payroll System at BBMP, the complete process was manually handled. Initially, all the salary bills were manually prepared by the concerned Drawing and Disbursing Officer (DDO). On generation of salary bill, DDO has to generate deduction statements and other related reports. Once this process is complete, all the salary bills, deduction statements and other related reports were verified by the concerned zonal offices. After verification process, the concerned Zonal Assistant Commissioner of Finance (ZACF) office will generate and issue the cheque. The problems faced in the entire process were:

- Since the complete payroll process was manual, there was delay in disburse of salary in some offices.
- Salary bill and report generation were consuming a lot of time and was prone to mistakes.
- Consolidation of the data/reports was also very time consuming

To overcome the above mentioned problems, the complete payroll process was automated.

New Approach

Payroll system is a comprehensive web-based application developed using open-source technology and deployed at BBMP Data-center. Each DDO’s are provided with unique user ID and password to access the system. Using this, the concerned department DDO verifies the attendance details of their staff and generates the salary slip, deduction report and other related reports. These generated reports are then verified by the zonal case workers. After verification, these are then sent to concern ZACF for approval. On approval, salary bills are consolidated, and then payment of salary is done via Electronic Clearing System (ECS) to their respective bank accounts.

Goals of the Project

The Strategy involved providing a Modern Accounting System with computerization, better training of officials, acceptance at all levels of the institution and better management of the revenue streams. The same solution set is seen by everyone but the challenge was to implement it in the right sequence to extract genuine value. Therefore, the goals set were:

- Automate the complete process, in order to overcome delay in salary dispersal.
- Generate error-less salary bill and other related reports.
- Reduce time taken to produce consolidated reports.

Implementation Strategies

The system was developed and implemented in phases, so that all the master data and other related details are updated in a phased manner. The system is a web-based application which is hosted at the central location. Training to all the users was provided in their respective zonal offices. Support Engineers were stationed in
each zone to address any technical/functional issues and the progress was regularly monitored. Telephonic support was provided to all the users during the implementation. Necessary infrastructures were provided to all the officers to process the bills. Manual bills were not accepted and submission of bills through the system was made mandatory. The entire process of implementation of the payroll system thus evolved is as follows:

- **Requirements and needs of employees**

Consultation and interviews of employees, revealed the need of user friendly software and features, to meet the requirements of the employees. This process started from the initial stages and continued during the consequent phases of consistent trial and testing.

**Fig. 58: Payroll System at BBMP**

Tools and implementation methodology adopted revolved around development of user friendly software, re-engineering of information flows and creation of ownership amongst the employees and officers of the corporation. The strategy adopted was to test the system on a pilot basis in a couple of field offices, analysis of the feedback to further refine the system, gradually and sequentially expand the system to all the departments and offices. The existing system was studied and the changes were made to increase employee’s productivity. For the total change and work coding, the employees were taken into confidence.

**Fig. 59: Payroll System Training, BBMP**

The employees of BBMP first found the new system difficult but on realization of the overall benefits of the system, accepted it. The degree of ownership among the staff is increasing day by day. It may take a few more years before full potential of the system is realized.

- **Process**

The main task was the process mapping of the existing system and reengineering of information flows, internal and external, including restructuring and decentralization with its sequential introduction to all departments: Works/ Assets / Payroll with adequate software design and development.
Fig. 60: Implementation of Payroll System at BBMP Offices

Outcome

✦ Payroll process is now completely automated.
✦ Salary bill is being generated and payment of salary is done without any delay or mistakes.
✦ Data/reports are being consolidated instantaneously.

Fig. 61: Online Pay-Slip, BBMP

Software

The main software was developed by professional Chartered Accountants and Software engineers. The team of City Corporation went about redeveloping the software by adding layers of software to make it user friendly according to the needs of the employees. Concerned DDO officials manually designed and generated the bills. Everyone was bound to generate salary slip, making use of the software. Since the resource required for the payroll software was very less, the existing hardware resources were used in most of the offices. New server was procured to host the Payroll application and database. Broadband connectivity was provided to the offices wherever required. The Corporation Bank is one of the important stakeholders, which credits all accounts through Real Time Gross Settlement (RTGS) making the process efficient.

Challenges/constraints encountered

✦ Effective and immediate communicating to all the users was a problem, as the users were spread over 500 offices across Bangalore.
✦ The trainings had to be conducted several times for all the users, as they were initially not comfortable working on computers.
✦ Users took time to get used to this new concept of online approval and payment processes.

Achievements / Results

✦ This software is very accurate in terms of salary calculation and generation of deduction reports. There is no delay in disbursement of salary, as payments are made directly to their accounts.
✦ Errors in salary bills are very minimal and whenever there is a minute problem, the software consultants attend the issues in least time. The time taken for salary preparation has been drastically reduced, as it is a one-click solution for the entire DDOs’.

Impact of the Project

✦ Employee Electronic Database available for all 13,337 employees.
✦ Drawing and Disbursement Officer-wise (224) pay bills are generated.
✦ Various employee related reports generated.
✦ Hassle-free salaries to employees through payroll system.
✦ Total control in salary related aspects.
✦ Information flow time reduced from 48 days to 48 hours.
Faster payments – decentralized workload.

Scientific Classification of heads of accounts with more clarity.

Improved accountability due to confirmation procedures.

No payment without works code has enabled complete control over works.

Works Payment Seniority Analysis.

**Sustainability**

Total cost incurred for implementing the Payroll System is Rs. 4 lakhs. Each of the four different phases like development, training, implementation and execution consumed an expenditure of Rs. 1 lakh and duration of one month. No further big investment is required. Most of the expenses are one time investments for establishment of equipments and training of staff to operate the software created and the benefits of structured information has a payback period of less than a year.

**Contact for Details:**

Mr. Sheshadri. T,
IT Advisor,
Bruhat Bangalore Mahanagar Palike (BBMP),
N R Square, Bangalore – 560 002, Karnataka
Office: 080-22133029
Fax: 080-22247628
Mobile: 9480683131
E-mail: sheshadrit@gmail.com

Ms. Hemalatha.K,
Environmental Engineer,
Bruhat Bangalore Mahanagar Palike (BBMP),
N R Square, Bangalore – 560 002, Karnataka
Phone no: 080-22975559 / 22247633 / Mobile: 9480683060
Email: evnengbbmp@yahoo.com
Title of Best Practice:
GIS for Property Tax in Bruhat Bangalore Mahanagara Palike

State/City: Karnataka, Bangalore
BP Code: URF-###-9##-1424-0310

Previous Status

The Bruhat Bangalore Mahanagara Palike (BBMP) has broad responsibilities for providing a wide range of services to residents of the city. Prior to implementation of Geographical Information System (GIS), information related to all properties was unclear. The information on properties was available in various types like maps (of varying quality and different sizes), filing cabinets, in computers using different software, etc.

While the record formats and storage methods had worked well in the past, the existing information resources in a map were found to be inadequate. The information was available on multiple maps of different sizes and scales and was outdated or very difficult to understand.

When the erstwhile BBMP was formed by combining the Bangalore Mahanagara Palike (BMP) area with the neighboring central mass concentrations called as new Zones, like a) Rajarajeswari Nagar, b) Bomannahalli c) Mahadevpura d) Yelahanka and e) Dasarahalli, BBMP grew to be the largest Municipality in India with an extended area of 800 Sq. Kms. This made the task of identifying and assessing the taxable properties all the more difficult for the corporation.

New Approach

The Karnataka State Electronic Development Corporation (Keonics), a state government undertaking was entrusted with the responsibility of preparing the multi-purpose GIS-based database.

Objectives of the GIS system for Property Tax were set as follows:

- Identify all properties in the BBMP area, and bring them to the tax net. Properties that are already in the tax net to be corrected for accurate information on its site dimensions, built up area, land use (whether commercial or residential) and classification whether Owner occupied or under Tenancy.
- Providing BBMP with the means to efficiently administer property tax system.
- Providing a standard toolbox for Tax Officers, Assessors, and Bill Collectors – ensuring uniformity across jurisdiction.
- Providing all levels of administration with access to property assessment and tax information in a timely, accurate, and cost effective manner.
- Expandable to accommodate future changes in valuation.
- Includes all other online services for a property tax payer.

The GIS for Property Tax was created using satellite images. These images were vectorised to create a base map. The Base map is printed on paper along with a legend sheet for the base map and a field survey is conducted. Any corrections needed, are done on the physical map and noted on the legend sheet. Additional attributes such as approximate area of the plot, land use (commercial, residential, residential and commercial), number of floors, and type of building are captured and recorded. The data so collected is updated in the GIS system.

The base map is now used as a reference for all properties. Any apartments and important landmarks are marked on the base map. The base map is recorded with the application number, property ID, Khata or survey number. The completed base map is now compared with the tax system to include the remaining property information and validated. Additionally, a physical verification is done by the tax inspectors to correct any errors in the system.

The GIS System is integrated with the taxation system to update tax paid information. The GIS system has information on properties in Tax Net and out of Tax Net along with tax paid. The data available can be organized for entire BBMP.
area, zone details, ward details and help center
details. Additional information is available on site
dimensions, No of floors, Landuse (whether
commercial, residential, government). With the
base map availability and properties marked, the
system can be further enhanced to gather
values on tax expected, defaulters and quality of
tax paid for any zone.

Implementation Strategies

Tax Inspectors of BBMP are actively involved in
GIS system development. Activities
implemented to achieve the objectives are:

- Acquire high resolution latest Satellite Digital
  map of BBMP area.
- Team of GIS experts generating Vector map
  from the acquired satellite map using special
  tools.
- The vector maps were plotted on to A0
  paper along with list of property and
  identifications.
- The map is used to identify the properties.
- The individual property is marked on to the
  map along with database via primary survey.
- The field surveyors visited the particular
  localities and cross-verified the details in the
  map and the actual status of the properties.
- A unique identity number, door number,
  detailed address, owner’s name, electricity
  and water meter numbers, measurement of
  site and built-up area, number of floors,
  usage, year of construction and photograph
  are among the details of each property that
  was collected as part of the database.
- The Backend team integrated the details
  and updating the system with newly
  identified properties.
- Updated the map database from BBMP
  legacy database for revenue collection
  system.
- Primary details such as usage of property,
  approximate measurement and number of
  floors was also compiled and the database
  was generated.
- Updated the GIS server and BBMP
  database.
- Subsequently, details of property tax returns
  filed by the owners were entered with the
  help of the software being specially
  developed by the National Informatics
  Centre (NIC) for BBMP’s property tax
  management.

**Outcome**

With the GIS System, BBMP has brought all
properties in its jurisdiction to the Tax Net.
Additionally a good understanding of the density
of properties and the necessary infrastructure for
the area has been made. Property Tax being
the primary revenue, BBMP ensures that are appropriately collected, for all properties tax which would enable them to meet the demands and necessities of its citizens.

The software generated provides pre-loaded information on zonal regulations and other details, and alerts the officials about any property deviation taking place. These details would be useful to the BBMP to identify those who avoid paying property tax and those who fail to make complete disclosure of their properties. The results also show that returns filed by many under the Self-Assessment Scheme (SAS) earlier were found to be incorrect.

Achievements / Results

- Active involvement of the Tax Inspectors, Tax Officials and Media has been the reason for success with the GIS system.
- Providing user interface for the general public, to see and understand the pattern of payments received along with the capability of reporting, transparency in the system has contributed to the long term success of the initiative.

Impact of the Project

The GIS system would now act as a tool for BBMP to check the discrepancy to a large extent. The database will have provision to update the details by the officials concerned and hence any changes in the nature of the property such as change of khata, plan etc., can be incorporated without any difficulty. This will help BBMP to have complete information about properties.

When the entire database would be ready, the BBMP would be able to facilitate the public to access the information by making it available through its website.

These digital satellite maps used for property mapping could also be made use of in future for planning road maintenance like determining width of footpath, road, median and the like, besides determining the slope of the terrain for storm water drains.

Contact for Details:

Mr. Sheshadri. T,
IT Advisor,
Bruhat Bangalore Mahanagar Palike (BBMP),
N R Square, Bangalore – 560 002, Karnataka
Office: 080-22133029
Fax: 080-22247628
Mobile: 9480683131
E-mail: sheshadrit@gmail.com
Title of Best Practice:  
Preparation Process for Draft City Development Plan, Kolkata Metropolitan Area

State/City: West Bengal, New Barrackpore  
BP Code: URF-###-3##-3065-0410

Previous Status

The West Bengal Municipal (1993) (Amendment) Act 1998, requires municipalities and municipal corporations, or ULBs in the state to prepare Draft City Development Plans (DCDP) for their respective covering period of five years, while addressing a range of municipal functions as laid down in the Act.

The initial settlers (refugees) set up a colony by cutting jungles and bushes in the district of 24 Parganas, in West Bengal, and named it ‘Naba Barrackpore’. They formed a Co-operative Society to shoulder the initial responsibility of its development.

Gradually small narrow roads (pucca and kancha) were developed and “New Barrackpore Municipality” (NBM) came into existence in 1965 with 16 Wards and a population of 25,500. Presently, it is a municipality within Kolkata Metropolitan Area (KMA), inhabited mostly by the refugees, hailing from erstwhile East Pakistan, now Bangladesh after the Partition.

Prior to 1970, this municipality was headed by a nominated Chairman, with a Board of elected Councillors. For obvious reasons, this elected Municipal Body had to be baffled with a lot of difficulty in taking the various problems of the migrated people living in NBM.

![Table 20: Basic planning data of NBM](image)

Table 20: Basic planning data of NBM

<table>
<thead>
<tr>
<th>Area</th>
<th>6.89 Sq Km</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Wards</td>
<td>19</td>
</tr>
<tr>
<td>Population</td>
<td>83183 (as per 2001 census)</td>
</tr>
<tr>
<td>BPL population</td>
<td>21%</td>
</tr>
<tr>
<td>No of households</td>
<td>15420 (mostly inhabited by refugees from Bangladesh)</td>
</tr>
<tr>
<td>Average yearly rainfall</td>
<td>165 mm</td>
</tr>
<tr>
<td>Male/Female ratio</td>
<td>50.24:49.76</td>
</tr>
</tbody>
</table>

Source: NBM

In preparing the “first generation” DCDP for NBM, it has been admitted that there are imperfections in the overall development plans in relation to thematic integration of various action plans, and linkages between proposed development plan and overall resource availability.

NBM had no industry, small or large, in the formal sector. There existed only some small cottage industries in informal sectors. It’s main sources of finance to carry its various municipal development works were basically the Property Tax, Water Cess, Enlistment Fee (Provisional Trade License), Food License, Van and Rickshaw License, Building / Site plan charges, Mutation charge, Surcharge on transfer of land, Water Connection charge, Advertisement tax etc. and revenue earned from its own market. This ULB has to go on with its development plans with the funds raised from its limited sources, and with the grants and aids from Central / State Govt.

New Approach

In view of the mandatory provision of 74th Constitution (Amendment) Act 1992 (CAA), all municipalities in India have become the third tier government in the country. Following the constitutional requirement West Bengal Metropolitan Kolkata Metropolitan Committee Act, 1994, and West Bengal District Planning Committee Act, 1994 was duly constituted. Pursuant to such constitutional requirement the West Bengal Municipal Act, 1993, has also been appropriately amended in 1998.

Kolkata Metropolitan Planning Committee (KMPC) was constituted as the first MPC in the Country in 2005, and as required VISION 2025 was prepared for KMA, that has been followed for preparation and documentation of the DCDP for NBM.
NBM became the fore runner in the whole of the Country in producing the DCDP-documents annexing in 6-Volumes, through financial assistance from the Government of United Kingdom, and earned due approval of KMPC. Thus it is the First Municipality in country following the mandate of 74th CAA in this regard.

The achievements made so far:

- **Health:** This Municipality had been running an ideal General Hospital, being financially self dependant. Remarkable success of NBM in health sector attracted joint venture, as well as participation of State/ Central Government of India.

- **Supply of drinking water:** The network of piped water supply had reached in all the 19 Wards, covering 80 % of the locality.

- **Solid waste management:** A privatized door-to-door solid waste collection system was initiated in all the wards covering more than 70 % of the total area.

- **Slum Improvement Drive:** Of the 35 designated slums, 26 were recognised slum. About 25% of total population of NBM was residing in slums. Slum dwellers here are of 3 categories.
  - Refugees with Patta
  - Self housing
  - Illegal squatting on service land.

**Fig. 64: Slum Development Workshop, NBM**

- **Poverty Alleviation:** For gradual eradication of poverty existent among 30% of the population, different programmes were going on under Swarna Jayanti Rojgar Yojna (SJSRY) Scheme.

- **Citizen Interface:** NBM was first to introduced Citizens’ Charter on 01.12.2002.

- **E-Governance:** GIS was started to operated here since 03.01.2001 for transparent administration and good monitoring system.

- **Literacy Programme:** As a result of well designed literacy campaigns, percentage of literacy was raised to 97 % (approximately).

- **Accounting System:** The Accrual based Double Entry System had been made operative in this ULB much earlier.

- **Art and Culture:** NBM set up many cultural organizations for promotion of art and culture in all the Wards. In the recent past, this ULB with its own initiative and own finance built an ideal auditorium having 1200 accommodation in the heart of the city.

- **Resource Mobilization Initiative:** Different steps had been taken for finance and resources mobilization. By taking intensive measures, collection of revenue has been
raised to a satisfactory level. Some timely and prudent administrative reforms were undertaken by the Municipal Authority.

Goals

This DCDP preparation programme for NBM being the first and has been considered as the Best Practice, that has been rolled out to the remaining ULBs in this state, within the purview of respective MPC / District Planning Committees (DPC), West Bengal with the following reforms:

1. Improved urban planning and governance
2. Enhanced access of basic urban services to the poor.
3. Promoting pro-poor economic growth and finally.
4. To achieve efficient organizational development and financial stability.

Implementation Strategies

The DCDP- preparation process includes host of key players and stakeholders in different levels of operation. The Municipal Affairs Department, Government of West Bengal (GoWB) has been in the lead and other organizations provide their support at various levels of operation. Various organisation supporting the operation are: State Urban Development Agency (SUDA), KMDA, West Bengal Valuation Board (WBVB), Municipal Engineering Directorate (MED), Directorate of Local Bodies (DLB), and Institute of Local Government and Urban Studies (ILGUS).

A separate registered society named as Change Management Unit (CMU) has been created under the Municipal Affairs Department, GoWB, to directly oversee implementation of the programme of DCDP-preparation, headed by a senior administrator from the Government. A team of sector experts and specialists have been specially recruited to work with the society.

The Internal appraisal and final compilation of DCDP was done with the help of third party appraisal team. The objective of appraisal was to:

- Strengthen Organizational support.
- Realistic Planning.
- Reflects Citizen’s voice.

The DCDP was launched in the municipality on July 7, 2005 and the launching workshop was attended by people from all corners of the city irrespective of caste, creed and religion.

Through a Resolution in the meeting of Board of Councilors held on August 13, 2005, the DCDP Policy Group (DPG) and DDP Technical Groups 1, 2 and 3 were formally constituted. A notification was issued from this Municipality on August 18, 2005 constituting the DCDP Policy Group, and three Technical Groups. A Convener and a Member Secretary for each of the Technical Group was also appointed. Terms of Reference for DPG and for all three DTGs were also finalized and circulated.

Fig. 65: DDP Maintenance Zone of NBM

The following will illustrate the logical sequencing of various activities in the stages of appraisal of the DCDP:

- Conducting Launch Workshop.
- Formation of DPG.
- Formation of DCDP Technical Groups (DTG) of Councilors in its emergent meeting held on August 13, 2005.
- Sensitization Workshops.
- Planning workshops with DPG and DTGs.
Monitor the accommodation of pr

The committee was assisted by the DTGs. All three DTGs undertook a comprehensive exercise to review the progress of ongoing projects.

- Three DTGs met separately twice in a year.
- Review exercise was undertaken by the DTGs continuously.
- The DTGs submitted report separately for each component for every project.
- The report needs to indicate progress, financial as well physical, during review period.
- The DTGs also suggested measures for improvements in project implementation.
- The DTGs submit their reports at least ten days before the scheduled dates of meeting of the Monitoring Committee.

Mid-term review of DCDP had been taken up in the third year along with the third annual review of the DCDP in the month of March. Monitoring Committee examined the modifications/amendments suggested, worked out details and finalized the plan.

Constraints / Challenges encountered

Reviewing the DCDP was identified as the main challenge in the entire process. By identifying the areas of planning for the three components of DCDP, peoples’ representation and orientation was necessary and was carried out in the manner as follows:

- Institutional
- Kick-off meeting with CMU and key officials of the municipality.
• Discussions with district and block level officials to get overview of ULBs.
• Preparation and submission of a phased plan for providing support to ULBs.
• Complete review of first draft of DCDP.

◆ Social and Livelihood Development

• Support ULBs in conducting In-depth discussions with a sample of citizens in the areas and other stakeholders.
• Data Collation (if required) and analysis.
• Recommendation of suitable plans and revision of the DCDP and Project proposals
• Submission of report to approving authorities after Public validation.
• Revision of DCDP based on comments of Approving Authority.
• Submission of report to approving authorities after Public validation.

◆ Infrastructure Land Use and Environment

• Presentation of approved DCDP to citizens of ULB.
• Land use development.
• Gap analysis.
• Final recommendations for preparation of next DCDP.

Achievements / Results

◆ Able leadership role of the Chairman of NBM became the most pulling agent towards completion of the DCDP for NBM.
◆ NBM has become the first to produce DCDP in response to the mandate of 74th Constitution Amendment Act 1992 in the state, followed W.B. Municipal Act 1993, as amended in 1998.
◆ Introduction of ‘Citizens Charter’ first by NBM in the state.
◆ One of the first two municipalities in the state to introduce computerization in the matters of tax assessment and collection etc., for providing municipal services to the citizens of the municipality.
◆ NBM has been among the initial municipalities to introduce door to door collection of garbage for disposal in identified places. This is also the first one as the beginner of Public-Private Partnership in the field of door to door garbage collection, along with Barrackpur Municipality, providing municipal garbage clearance and disposal services in the municipal system, with a minimum charge to the citizens, particularly engaging unemployment youth creating employment.

Replicability

The same methodology has been replicated to all the 126 ULBs in West Bengal, since 2005 to 2010 and, it is expected that the “first generation” DCDPs will be completed by this time. Similar approach would be necessary for the other ULBs in the state.

From the “second generation” and afterwards the DCDP preparation would be in the nature of updating and new innovations to be incorporated and/or followed from time to time.

In almost all the ULBs in West Bengal the attempts have been made while preparing the DCDPs for the respective 125 municipalities, following 18-Tool Kits, produced for the purpose under the responsibility of the Change Management Unit, GOWB.

Impact of the Project

Practically, on the ground, the program of DCDP preparation for all ULBs in West Bengal is nearing towards completion.

Contact for Details:

Prof. N. N. Som,
Team Leader,
Ma Foi Consulting Solutions,
Professor (HUDCO Chair),
Urban Management Centre,
Administrative Training Institute,
Government of West Bengal
FC Block, Sector-III, Salt Lake,
Kolkata-700 106
Phone: 91-033-2337-0120/4043
Fax: 91-033-2337-3960
Mobile: 98397 67984
E-mail: nisitsom@yahoo.co.in
URBAN RENEWAL

Peer Experience and Reflective Learning (PEARL)
Title of Best Practice: Initiatives under JNNURM in Nanded Waghala City

State/City: Maharashtra, Nanded
BP Code: URN-###-###-1633-0310

Previous Status

Nanded is a city with a strong religious and socio-cultural base and has a historical origin dating back over four centuries. It evolved as a trading center and due to its religious character continued to remain as a center of religious tourism. It is generally evidenced, however, that the economy and quality of living have stagnated over the last few decades. The most acute symptoms of stagnation included closure of industries and the textile mills, slow job growth, slum proliferation and high cost of land and housing. These issues have been exacerbated by the lack of integrated planning, fragmented governance and weak fiscal systems.

Its key strength remains due to its being a regional center, availability of adequate water, presence of an airport and proximity to international airports, which could be leveraged to attract investments in the industrial sector and boost trade and commerce. The new industrial policy formulated by the Government of Maharashtra along with infrastructure development with a special package for Marathwada region is expected to give a fillip to the development of Nanded.

Its religious and cultural potential has presented Nanded with opportunities for exploiting tourism as an economic activity. Several tourism hotspots of religious and historical significance in the city are popular attraction centers. With proper marketing and branding, tourism can be the major economic activity for the city.

The Gur-ta-Gaddi tercentenary celebration created a tremendous opportunity to develop the city infrastructure to cater to its citizens as well as pilgrims. Substantial assistance is made available and is utilized and leveraged to meet the city’s long term requirements and meet its objectives/vision.

New Approach

In view of the Gur-Ta-Gaddi celebrations and as per the requirement of JNNURM, a City Development Plan (CDP) was prepared. It had focused on various sectoral developments as per need of the city. The following section documents a brief on each sectoral development goals that was developed by the Nanded Waghala City Municipal Corporation (NWCMC):

A. Economic Growth Strategies

Due to its strategic location as a regional center over a radial distance of about 250-300 km and availability of water, the key drivers supporting the economic development of Nanded are identified as:

- Health Sector;
- Tourism and Entertainment Sector; and
- Industrial Development – Agro-Economic Zones.

Privately run small hospitals have mushroomed in Nanded, which provide little comfort to the backward and economically weaker sections. To meet the growing needs of the region of over 10,000 sq. km., there was a need felt to evolve Nanded as a regional center for advanced secondary and tertiary healthcare services. The sectoral development could be supported by the present medical college, which could also be upgraded to a research center for advanced studies in medical research.

Tourism and entertainment constitute another key ingredient of Nanded’s development strategy. Nanded has the essential features of a potential heritage and pilgrim tourism destination, which could be exploited. One of the key strategies is to designate in the Development Plan for South Nanded a Special Tourism Zone and undertake necessary concept building and strategy for attracting investments into it. The Gur-ta-Gaddi tercentenary celebrations are expected to be launched.
globally which would attract substantial number of national and international tourists and Sikh devotees. Nanded has been recognized as a cultural center and has been host to many socio-cultural events such as a Natya Sammelan. Certain locational features facilitate adding leisure/heritage facets to the city such as:

- River-based leisure activities.
- Water sports.
- Designated Heritage walk tracing the history of late Guru Gobind Singh.
- Sound and light show, musical events showcasing heritage.
- Heritage Garden showcasing physical model, historical development and spread of Sikhism.
- Renewal and conservation of old city area.

Riverfront Development, having a 5 km stretches of riverfront, has the significant potential to be developed into an attractive landscaped of leisure area. The riverfront area on the left bank of the Godavari River is interspersed with bathing ghats and Gurudwaras. The concept of riverfront development on the left bank could therefore feature on a riverfront heritage walkway, improvement to bathing ghats for ritual bathing, developing sanitation facilities, public conveniences and relocation of burial facilities, embankment wall and landscaping.

B. City Growth Management Strategies

NWCMC is making conscious effort at controlling the city sprawl in a phased and planned manner, adopting best practices in urban development and planning norms. There is an opportunity in the form of availability of large undeveloped tracts of land in south Nanded, where development can be planned and regulated in a phased manner. The principles for urban renewal and conservation should focus on:

- Revitalizing and conserving key heritage elements, including the river Godavari in Nanded.
- Promotion sustainable management of the Historic Area.
- Ensuring that the unique qualities and conservation values are understood and are sustained in the future whilst maintaining and promoting Nanded as a living and working city which benefits from Heritage Conservation and Management.

C. Infrastructure Development Strategies

The strategy for infrastructure development focuses on integrated development of infrastructure with specific attention on rehabilitation and refurbishment of existing systems, augmentation, better operation and maintenance, institutional development and capacity building for better O&M and sustainability. Detailed sectoral areas to address the key focus areas are listed below on which projects were identified and implemented. They are:

- Water Supply,
- Sewerage and Sanitation,
- Storm Water Drainage,
- Solid Waste Management,
- Transportation,
- Health Services,
- Education Services, and
- Housing.

D. Urban Basic Services to the Poor

Through this it was decided to provide access to housing and urban basic services to the urban poor. It is necessary to create about 26,000 low-cost houses for slum dwellers by redesigning the Slum Redevelopment Scheme and offering residents a range of options, customized to their location and to the quality of their dwelling. NWCMC also focused on increasing the water supply system coverage of slum households, solid waste management system, roads lined with storm water drains system, etc. under proposed schemes.

E. Institutional Development Strategies

NWCMC is a municipal corporation in a nascent stage – upgraded from a municipal council in 1997. The human resource capacity and exposure for planning and development is limited and needs to be strengthened. There is also a need to streamline systems and procedures for day-to-day functioning and install a robust management information system that facilitates efficient planning, monitoring and decision-making.
The Corporation has proposed to implement an integrated Enterprise Resource Planning (ERP) package. This package would be bilingual and it is envisaged that the Total Solution Provider (TSP) would maintain the software for an initial period. The process of selection of the TSP is expected to be completed by March 2007 and the system is expected to be commissioned in 2008. The applications would include the following type of services to the people:

- Registration of Births and Deaths.
- Computerized with the help of private sector.
- Public Grievance Redressal.
- Computerized Citizen Facilitation Center.
- Property Tax management, including records management.
- Assessment and issue of Demand Notices is computerized.
- Municipal Accounting System.
- E-Tendering.
- Personnel Management.
- Computerization of Pay roll and service book is complete.

Goal of the Project

Nanded Vision 2025 has been developed with a goal to transform Nanded into a vibrant regional economic hub, through urban renewal and infrastructure development.

Implementation Strategies

The stakeholder meetings and planning for development of city's infrastructure to meet the immediate requirement of the tercentenary celebrations in Nanded had led to setting out a conscious effort of the Government and the citizens in planning and defining priorities. The ensuing discussions and consultative approach have led to the general consensus among all on the emerging priorities. These are summarized below

- Development of Gurudwara and its surroundings.
- Development of approach roads to the Gurudwara and leading to the ghats.
- Development of riverfront area and walkways connecting all religious sites along it.
- Development/Beautification of city roads, link roads and improvement of roads and transport infrastructure and traffic management.
- Improvement to water supply and drainage and implementing underground drainage system in city.
- Improvement of slum areas.
- Public transportation.
- Development of specialty hospital and upgradation of government medical college and hospital.
- Development of support systems/facilities for law and order, traffic management, fire services and trauma care/accident management.

NWCMC has already initiated preparation of sectoral master plans and detailed project reports across most sectors. NWCMC does not have the required institutional capabilities for project planning and development – they have engaged Infrastructure Leasing and Financial Services Limited (IL&FS) as their Program Manager, considering the scale and complexities involved in the proposed developments. Some of the key project development initiatives undertaken under this engagement are briefly described hereunder:

A. Riverfront Development Project

NWCMC has carried out a detailed master plan for the entire riverfront on either banks of the River Godavari on either bank within the city limits. The focus of the master plan is to revive the River Godavari in Nanded through water retention and interventions aimed at enhancing the functional and scenic heritage of the river. Special attention is being laid on the zoning plan, so as to ensure reviving and conservation of the inner city fabric in the core city area along the river banks. Other interventions include development of ghats, public spaces, gardens, eco parks, botanical garden, mela ground, stadium, etc. on either side of the river bank.
Fig. 67: Preliminary Concept Option for the Riverfront Development, Nanded

Fig. 68: Glimpses of Proposed Riverfront Development Components, Nanded

B. Water Supply Project

The scope of work entails improvements to the water supply system in Nanded. Specific sub-project components being addressed include:

I. For South Nanded –

- Source creation and water treatment plant.
- Rehabilitation of pumping machinery at source and at Water Treatment Plant (WTP).

II. For North Nanded –

- Transmission of the main seven new Elevated Service Reservoirs (ESR).
- Improvement and augmentation of pump sets at source and at WTP.
- Transmission of the main additional eleven ELSR.
- Capacity addition of distribution system by 220 Kms.
- Rehabilitation of distribution system (pipes and valves).
Rehabilitation of house service connections.

C. Sewerage and Sanitation Projects

The scope of work entails improvements to the sewerage system in Nanded. Specific sub-project components being addressed include:

I. For South Nanded
   - Collection System.
   - Sewage Pumping Stations.
   - Sewage Treatment Plant (STP).

II. For North Nanded
   - Improvement and augmentation of the existing system – collection, pumping and treatment systems.
   - Extension of the collection system to uncovered areas.

D. Storm Water Drainage Projects

The project entails design and development of a storm water management and drainage system Nanded. There are about 14 major nallahs that drain the city’s storm water into the river. The plan is to assess the capacity of these nallahs and the tertiary storm water network to effectively drain out all surface runoff and to ensure minimal flooding.

E. Transportation Infrastructure Project

The scope of work for project preparation for transport infrastructure is focused on strengthening, widening and beautification of existing arterial roads. The widening proposal is based on the proposed development plan widths. There are about 40 such priority roads measuring about 50 km. In addition Detailed Project Report was prepared for one major bridge across the River Godavari. These interventions were critical from the point of view of the Gur ta Gaddi Tercentenary celebrations’ circulation requirements as also in the context of city-wide transportation network. The detailed project reports for these components were approved on February 25, 2007.

Challenges / Constraints encountered

The following constraints and challenges have been encountered while implementing the Development Plan:

- Projects delayed because of land acquisition problems.
- Execution of projects like water supply, sewerage system and roads simultaneously delayed the road projects.

Achievements / Results

A. Riverfront Development Project

- 1500 m long promenade along bank.
- 9 beautiful Ghats with entry plazas.
- Ramp for Physically challenged persons.
- Good lighting.
- Safe two layer (upper and lower), bathing platform with non skid rigid paving (30000 people capacity).
- Changing rooms for ladies.
- Platform for boats and landscaped terraces.
- Gabion walls for protection of banks from erosion.

*Fig.69: Godavari Riverfront Development, Nanded*
Fig. 70: Banda Ghat, Nanded

B. Transportation Infrastructure Project

- Improvement to movement network - out of 35 roads, 18 roads completed:
  - Roads widen to full ROW as per DP width. (min. ROW 12 m, max. 30 M).
  - Separate lanes for NMV, MV, MUZ and wide footpath (min. 1.8 M).
  - Proper Street lights, signage and informatory boards.
  - Reinforced Cement Concrete (RCC) lined and close storm water drains below footpath.
  - Bus bays for city buses.
  - Tree plantation place on both sides of roads and in dividers.

Fig. 71: Road Design as per New Developed Policy, Nanded

Fig. 72: Road Abuting Gurudwara - Road No.16 (ROW-5 M to 8 M)
Improvement to movement network structure – Railway Over Bridge and River Bridge:

- Railway Over Bridge completed - wide four lanes Railway Over Bridge resulted in unrestricted traffic movement throughout the year.
- River Bridge – Bridge work completed. Approach work is in progress and likely to be completed by March 2010. Wide four lane River Bridge increased access to other side of river opening the doors of growth and development in South Nanded as well as entire Nanded city.

**Fig. 73: Hingoli Gate Railway Over Bridge, NWCMC**

---

**C. Water Supply Project**

- Raw Water Pumping Station -
  - WTP capacity - 169 MLD completed.
  - ELSR (Storage capacity) – 8 Nos. out of 18 Nos. completed.
  - Distribution system - completed.
  - Supply (LPCD) - 115 LPCD out of 135 LPCD has been achieved.

**D. Sewerage and Sanitation Projects**

- Collection System - 160Kms out of 320 Kms completed.
- STP – 36 MLD out of 117 MLD completed.
- Work of new 87 MLD STP in progress.

**Fig. 74: STP Constructed, NWCMC**

---

**E. Institutional Development Reforms**

- E governance System – Completed.
- Municipal Accounting Law – Provisional OBS drawn. Parallel process is in progress.
- Property Tax – on going.
User charges – On going.
- Separate accounting started for Water Supply and Sewerage.
- Internal Earmarking of Funds for Service to urban poor – Completed.
- Structural reforms – Ongoing.
- Administrative reforms – Ongoing.

**Sustainability**

Nanded got included in JNNURM because of its categorization as a holy city as well as the Gurdwara celebrations held in October 2008 in Nanded. Under JNNURM, the funding pattern is 70% from Government of India, 20% from Government of Maharashtra and 10% Urban Local Body (ULB) contribution. For 10% ULB contribution, NWCMC has obtained a long term loan of Rs. 70 Crore from the Pooled Municipal Debt Obligation Fund (PMDO) facility promoted by ILandFS. Considering the present financial status, NWCMC can sustain a loan of Rs. 120 Crore. Thus the total burden of the infrastructure cost share on NWCMC budget is spread over the next 15 years.

For operation and maintenance of the infrastructure being developed, NWCMC is expecting to get more revenue because of improved services like water supply and sewerage. At the same time, uncovered areas have also been covered and this is expected to add into the revenue. This is becoming a reality as under JNNURM reforms 100% of Operation and Maintenance charges for water supply, sewerage and other services are expected to be recovered from users.

**Impact of the Project**

The city renewal projects have been of great help in bringing about a new recognition to the religious city of Nanded. Some more projects have been approved under JNNURM Mission and are presently being undertaken at the city.

**Table 21: Summary of Projects Approved under JNNURM (UIG), Nanded**

<table>
<thead>
<tr>
<th>Project Id</th>
<th>Sanctioned Cost in Rs. Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement to Movement Network (NAD-06)</td>
<td>61.09</td>
</tr>
<tr>
<td>Water Supply – North Nanded (NAD-08)</td>
<td>90.87</td>
</tr>
<tr>
<td>Sewerage System North – Zone I (NAD-09)</td>
<td>40.25</td>
</tr>
<tr>
<td>Sewerage System North – Zone II (NAD-10)</td>
<td>48.89</td>
</tr>
<tr>
<td>Sewerage System North – Zone III (NAD-11)</td>
<td>39.31</td>
</tr>
<tr>
<td>Water Supply – South Nanded (NAD-12)</td>
<td>49.45</td>
</tr>
<tr>
<td>Sewerage System – South Nanded (NAD-13)</td>
<td>40.93</td>
</tr>
<tr>
<td>Improvement to Movement Network (NAD-14)</td>
<td>214.97</td>
</tr>
<tr>
<td>Improvement to Movement Network (NAD-15)</td>
<td>58.15</td>
</tr>
<tr>
<td>Godavari Riverfront Development (NAD-16)</td>
<td>43.13</td>
</tr>
<tr>
<td>Storm Water Disposal System (NAD-17)</td>
<td>45.73</td>
</tr>
<tr>
<td>Urban Transport – Procurement of City buses</td>
<td>7.60</td>
</tr>
<tr>
<td><strong>Total Rs. Cr.</strong></td>
<td><strong>740.37</strong></td>
</tr>
</tbody>
</table>

Source: NWCMC

---

**Contact for Details:**

**Dr. Deepak Mhaisekar, I.A.S**  
Municipal Commissioner  
Nanded Waghala City Municipal Corporation  
Municipal Corporation Main Building,  
Stadium Complex,  
Nanded 431601  
Office: 02462-234405  
Fax: 02462-232071  
Cell No. 09422034444, 09921044466  
E-mail: deepak_mhaisekar@yahoo.co.in

**Mr. Sanjeev Patil**  
Project Manager  
JNNURM Project Office  
Shankarrao Chavan Auditorium  
Stadium Campus  
Nanded - 431602  
Maharashtra  
Ph. +91 9923410878  
Fax: 02462-232071  
Email: sanjeev.nanded@gmail.com
Title of Best Practice:
Vending Zones in Bhubaneswar

State/City: Orissa, Bhubaneswar
BP Code: URN-###-8##-2140-0310

Previous Status

Bhubaneswar, popularly known as the “temple city” of India, is the capital of Orissa and is one of the fastest growing cities since its inception in 1948. Every year on an average, it attracts millions of tourists into the city. Being the gateway city of the state, it is importance to keep the city beautiful particularly the major streets. In doing so, one of the major challenges was to keep the main roads and public spaces of the city free from street venders, hawkers etc. However, in spite of several removals, enforcement and demolition drives, the results were not very significant.

Even though law prohibits hawking on the street, public space, etc. it is a common practice within the city due to growing informal economy. In practice it has become a problem for Bhubaneswar Municipal Corporation (BMC), development authority and police. Overall, the problems can be explained as:

- Street hawking affected in city beautification;
- Street hawking resulted into road accidents and traffic obstruction;
- BMC's effort to develop city beautification remains unnoticed; and
- Civic body did not get revenue from street hawking;

New Approach

BMC adopted an innovative strategy to organize the informal venders into Vending Zones. The civic body of Bhubaneswar realized that informal venders need to be organized for the best interest of city transport, beautification and reducing cities carbon foot prints. It also realized that organized vending zones would provide revenue to the civic body.

The capital city of Orissa in India therefore, initiated an innovative approach to improve the Informal trade and better managed public space.

This initiative is unique in nature due to the development of Public-Private Partnership (PPP) model. The task was not easy due to combination of many institutions. But today this initiative is in the process of replication in many other cities of the country.

Fig. 75: Scenic Stages of organizing the Vending Zones, Bhubaneswar
Implementation Strategies

The civic body had realized that every day eviction will not solve the street hawking problem. In fact giving it a positive note, BMC established the linkages between informal city economy and the employment generation strategies that street hawking was providing to the city. It therefore, begun as a model approach to understand the behavior of vendors to sift into organized vending zones. However, it was not an easy process to convince vendors and various service providers of the city. The stepwise implementation process of organizing the Vending Zones is as follows:

- **Step I** – Enumeration of venders by Civic Body along with Street Venders Association. Civic Body also conducted an independent survey to identify correct person.
- **Step II** – BMC then identified a place for relocation of venders in consultation with City Management Group (CMG). CMG consists of representatives from various service providers of the city including planning and police.
- **Step III** – BMC informed identified informal hawkers to move into the new location. The existing place was cleaned from encroachers and wire fenced for plantation or parking, etc.
- **Step IV** – Venders were allowed to construct temporary shed as designed by BMC. Initially, venders were allowed to construct temporary sheds made of recycled products like Bamboo. Upon successful functioning for first six months, they were allowed to convert the sheds from Bamboo to Iron Sheet.
- **Step V** – The process of constructing Iron sheds was done through an advertisement agency. The advertisement agency was given right to use the defined displayed spaces for commercial use. The advertisement agency shared some portions of revenue in constructing the sheds.
- **Step VI** – All the identified venders were provided with a photo identity card signed by Chief Executive Officer of BMC.
- **Step VII** – Venders also registered for trade license in civic body.
- **Step VIII** – Rules and guidelines have been set for the vending zones that were needed to be followed as instructed by BMC.

### Table 22: Instructions set by the Civic Bodies for the Vending Zones, Bhubaneswar

<table>
<thead>
<tr>
<th>Instructions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dustbins</td>
<td>Keep dustbins to collect garbage</td>
</tr>
<tr>
<td>Sanitation</td>
<td>Ensure cleanliness of the vending zones</td>
</tr>
<tr>
<td>CFL Bulb</td>
<td>Only CFL bulbs are allowed to use in Vending Zones</td>
</tr>
<tr>
<td>Advertisement</td>
<td>BMC will collect Advertisement fees</td>
</tr>
<tr>
<td>Structure</td>
<td>No permanent structure other than the Bamboo or Iron sheet</td>
</tr>
<tr>
<td>Ownership</td>
<td>Venders can’t claim for ownership of the land</td>
</tr>
<tr>
<td>Size</td>
<td>Eligible structure would be of 6’x6’ or 8’x6’</td>
</tr>
</tbody>
</table>

*Source: BMC*

### Outcome

- Illegal vending in Major Streets is not allowed, therefore is encroachment free zones of the city.
- Around 30 Vending Zones came up with 2000 vendors within the city.
- The vending Zones are organized and regulated.
- BMC received revenue income of Rs 15.00 Lakh from trade license and Rs 1.96 Lakh from advertisements.
- BMC was not required to spend money for construction of vending zones.
- Revenues for constructions were mobilized from advertisements on PPP basis.
- This is a win-win situation for all vendors in terms of stability and partner in city development.

### Lessons Learnt

Some of the major lessons learnt through this programme are:

- Organized informal hawkers in Vending Zones.
- Provides vendors their identity and stability.
- City gained land from encroaches by sharing different unused space equally.
- Civic Body income increased with no investment.
- Location wise, it is a walking distance reduced use of vehicles.
- Use of energy efficient CFL bulbs in these vending zones help in reducing high energy consumption.
Fig. 76: Vending Zones, Bhubaneswar

Achievements and Results

- Organized informal trade linking with beautification, energy conservation, reducing carbon footprints and building confidence amongst the venders.
- Inclusion of private sector to construct vending zones at zero cost to civic body.
- Motivated informal venders on forming low carbon society.
- Growing informal trade in Indian economy will boost vending zones.
- Inclusive Vending Zone Policy is essential.
- Near the housing complexes ensures commuters reducing cities carbon footprints.
- Advertising rights as per the actual rates.
- Being a PPP it has no financial burden.

Sustainability

Although street vending is not new in India but the present practice is a good example of organizing venders in a vending zone through partnership, consultation and private sector involvement. In other way, doing business for society and earning revenue for the civic body. Also this helps in reducing traffic congestion, improved parking space, and equality in space management and contributes substantially in reducing carbon footprints. Constant revenue generation to BMC, increased informal economy of the city and formal identified employment generation shall help in sustaining the regulated vending zones.

Replicability

The Vending Zone concept is transferable to any cities having available space near to housing society, streets or commercial areas. Many cities visited BMC for replication of the programme.

Contact for Details:

Sri. Gadadhar Parida, I.A.S
Commissioner,
Bhubaneswar Municipal Corporation
Vivekananda Marg, Gautam Nagar,
Bhubaneswar-751014
Phone: 91-674-2431403
Fax: 91-674-2432895
Mobile: +91-9438184649

Mr. Piyush Ranjan Rout
Executive Director
City Managers Association Orissa,
C/o Vice Chairman,
Bhubaneswar Development Authority,
Sachivalaya Marg,
Bhubaneswar - 751001,
Phone: +91-674-2395614
Fax: +91-674-2390633
Mobile: +91-9437176717
E-mail: cmao@bsnl.in or cma.orissa@gmail.com
Disaster Management System
Title of Best Practice:
Planning for Reducing the Impact of Disasters in Surat, Gujarat

State/City: Gujarat, Surat
BP Code: DMT-###-###-0815-0310

Previous Status

Surat ranks second in the state of Gujarat in terms of total population. It is a very important industrial headquarter of India. India’s 70% and world’s 40% diamond trade is centered in Surat. It is a main centre for production of synthetic cloth. Post independence Surat has exercised rapid growth in industry and trade. As a result laborers have migrated to Surat from other parts of the state as well as from the country resulting in unexpected increase in the city’s population. Currently Surat is spread in 326.515 sq.kms and has a population of 28.76,374 as per Census 2001.

There is 83 km stretch of sea on one side of Surat. As a result there is a threat of cyclones and sea water rushing into the city during the high tides. River Tapi flows through the city and in monsoon, poses the threat of floods. While the threat of cyclone is rare, there is a threat of floods every four years. The city has also suffered due to the plague epidemic in the past.

During these calamities, the Surat Municipal Corporation (SMC) initiated several relief and rehabilitation works. A need for a natural and human made disaster management and preparedness plan was realised from these efforts.

New Approach

Till recently, SMC was prepared for only one time flood in a year. Various municipal departments also made their preparations keeping in view their own departmental tasks. As a result, this planning lacked inter departmental information exchange, synergy in implementation and coordination of hazard reduction works, etc. The work was done under a single system. Therefore, they were unable to perform appropriate tasks at the time of disasters and the resources were also underutilized. The human and property losses increased. Keeping in view the geographical situation and industrial development of the city, a need for preparing for the new disasters/calamities was felt. The need was realised to develop a universal disaster management and preparedness plan by the SMC.

Fig. 77: Disaster Management and Preparedness Plan, SMC

Objectives of the Project

Due to heavy rains in monsoon, water from Ukai Dam is released in Tapi River and due to high tide the river water does not flow into the sea. As a result, the water enters the city resulting in flood situation. The basic objective for preparing a disaster management and preparedness plan for SMC is to save the city from this calamity and to prepare the city to face this calamity by identification of physical and human resources and develop a plan. Preparations have been made to deal with floods, cyclone, earthquake, chemical and industrial calamities, drought, electricity, epidemics, fire, accidents, HIV/AIDS, poison, and for festivals like Deepavali and Makar Sankranti.
Implementation Strategies

Till recently the planning made by each department/branch keeping in view their respective tasks and the resources available with the Municipal Corporation, was limited to office use. The inclusion of resources outside the Municipal Corporation was negligible. Partnership from outside agencies and the citizens of Surat City was negligible. This was changed and a disaster management planning process was adopted wherein people were involved in the planning process and were provided with complete information regarding the planning processes. Plans for 7 zones of the SMC were prepared and later compiled to prepare an integrated plan for SMC as a whole.

The following steps were taken to prepare the plan:

A. Risk Identification According to Calamities

The Municipal Corporation identified the possible calamities and the area/people to be affected by it which included areas that could submerge under floods; the sea front area which could be affected by cyclone; areas which could be affected by industrial and chemical calamities; religious festivals like Makarsankranti when travelers on the over bridges suffer injuries due to kite flying and fires during the Deepavali festival. In this way risks pertaining to particular calamity were identified. In addition, the probable timing for occurrence of these calamities was also listed.

B. Identification of Resources

Following the identification of calamities and associated risks, required measures were identified. Planning must be done to ensure availability and use of the human and physical resources needed for rescue work and provide preliminary needs as per the requirement of the area. Accordingly in each area, for possible calamities in the city, resources were identified.

In the first phase, contact numbers of offices and officials of SMC; state and national central flood forecasting organization; meteorological office for cyclone warning; state and district control room; district police commissioner’s office; etc. were collected.

In the second phase, information was collected to conduct rescue and relief operations like flood relief works including relief centers for low lying areas; arrangements for boats, cranes, zone wise swimmers; food packet suppliers; owners of tankers supplying drinking water; etc were identified.
C. Partnership of Community and Public Organisations in the Mitigation Plans

Till recently, the municipality used to plan for office purposes only. But at the time of disasters, the support of citizens is also necessary. So the planning was initiated with public awareness in which families of each zone and public organisations discussed as to what could be the long term measures for disaster mitigation. Accordingly a list was prepared. People of the particular zone were informed of the safety equipments, the place and contact for procuring them.

Lessons Learned

SMC has prepared a disaster preparedness plan before the disasters take place and is therefore ready to face any calamities. Other Municipal Corporation can also follow Surat's footsteps and plan for natural and human made disasters. This includes defining the disaster in the respective city's context, identifying mechanisms for rescue and relief and developing a plan. This could lead to developing an effective plan just like SMC.

Achievements / Results

- SMC was able to identify the disasters causing destruction in the city and a plan to mitigate the disasters was developed.
- Involving the Citizens and Public Organizations has resulted in increase in strength to respond to the disaster.
- In addition to natural disasters, preparations are made to meet the disasters during celebration of festivals for example Wires are tied on the pillars of the over bridges and two wheelers are prohibited from commuting on the over bridge during that period, etc. Fires are watched for during Diwali and in this way protective measures are taken as precautionary measures.
- Due to this planning, the cleaning works following the floods in 2006 were done at great speed and the city was cleaned.
As the city is prepared for floods and cyclones the impact of the possible calamity could be reduced. This document is not only a municipal office document but that of its citizens and local public organizations. Awareness has been created among the citizens for disaster mitigation.

**Sustainability**

The process of developing the disaster mitigation plan itself demonstrates its sustainability as the municipality has engaged community and field staff to develop the plan as per local realities. Therefore it is realistic and synergistic. In this approach, people, public organizations and the municipality, all the three are aware of the rescue plan and the resources, contact numbers of the responsible authorities or persons, etc. This shall lead into effective and appropriate coordination taking place during any kind of calamities.

*Fig. 81: Pamphlets on Disaster Management, SMC*
ANNEXURES
INDIA URBAN PORTAL (www.indiaurbanportal.in)
PEARL Website:

**Under JNNURM**

NIUA has set up a PEARL website "India Urban Portal" www.indiaurbanportal.in that is operationalized and linked with JNNURM website. India Urban Portal is a knowledge collaborative platform that enhances the availability of quality urban information on best practices, projects, reforms, innovations etc. carried out in the selected cities under JNNURM. The goal is to provide portal to urban information and to create a network, community and resource.

The purpose of the portal is to improve access to information thus facilitating the knowledge -sharing and collaborating process. The portal will serve as an urban information and interactive center serving the informational needs of various communities of users. The site is user-friendly having standardized metadata, controlled vocabularies, and qualified sources to describe information. It contains:

- **Best Practices/ Projects** - Sector wise projects and best practices are listed here.
- **Organisations** - This section provides links to the Central Government Organisations, Urban Local Bodies, Development Authorities, NGOs, Research Organisations and International Organisations etc.
- **Data Resources** - This section provides information on useful resources like policies, laws, maps, statistics and data related to urban India. The section is constantly being enhanced.
- **About JNNURM** - This section provides information on JNNURM i.e. urban reforms, project status, latest update etc.
- **PEARL Newsletter, Publications, Daily news; Activities under PEARL programme, Gallery (contains video clip of the good practices and others) are also available.**

All the partners contributing to the flow of urban information are invited to join us in the integrated cooperation effort with suggestions, Informations to be put up in the site, news, events, Informations on projects, best practices, etc. Please mail us at Prof. V.K. Dhar and Ms. Nilanjana Dasgupta Sur
Call for Best Practices:

Urban Local Bodies (ULBs) have initiated reform processes to improve the level of urban governance. While numerous ULBs are introducing change initiatives some of which are extremely progressive and impressive, these are being taken in isolation and without sharing the benefits of their experiences with others. Some of these urban initiatives have been enlisted below for your reference.

You are requested to send us information on all good practices by filing-up the enclosed Best Practices Form - 1 (Annexure 2) and sending it back by e-mail to vdhar@niua.org and nsur@niua.org.

Post News and Events:

India Urban Portal's goal is to provide an entryway to urban information and to create an urban information network, community, and resource that will provide qualified, trusted, and verifiable information and contacts.

Contribute to the flow of urban information by submitting/posting any current news/updates/events/seminars/workshops/meetings related to the urban field via e-mail to vdhar@niua.org and nsur@niua.org.

Please give details on your organisation and contacts.
“Documentation of Best Practices” Vol - 1

“Documentation of Best Practices” Volume 1, under PEARL is a publication designed to document Best Practices. The best practice case studies have been drawn from the PEARL website – India Urban Portal database. Each case study presents brief summary, key dates, situation before the initiative, strategy to develop the initiative, the process, results achieved, sustainability, lessons learnt, recognition and replicability. The document has been prepared as part of PEARL activity for peer networking and horizontal learning among mission cities. The best practices include a cross-section of categories such as Sectors/Services (Water Supply, Solid Waste Management, Sewerage/Drainage, Roads/Flyovers and Public Transport System), Urban Reforms, Public Private Partnership, Urban Poverty, Disaster Management and Environment.

The details of the best practices are also available on www.indiaurbanportal.in

The following best practices are covered in the report:

- Water Quality Monitoring System: Surat, Gujarat;
- Pilot 24X7 Water Supply Project: Nagpur, Maharashtra;
- Installation of Centralized Bio-medical Waste Treatment Facility on BOOT basis: Surat, Gujarat;
- Waste Processing Plant through Public Private Partnership: Rajkot, Gujarat;
- Door to Door Refuse/Garbage Collection System: Surat, Gujarat;
- Advance Locality Management Programme: Greater Mumbai, Maharashtra;
- Green Energy Generation from Sewerage Gas: Surat, Gujarat;
- Inter-governmental Convergence for Integrated Sewerage System: Bhubaneshwar, Orissa;
- Diversion of Domestic Sewage for Improving Urban Lake Water: Bhopal, Madhya Pradesh;
- PPP for Street Lighting and Energy Conservation: Bangalore, Karnataka;
- Innovative Techniques in Construction of Footpaths: Bangalore, Karnataka;
- PPP in Street Lighting: Vijayawada, Andhra Pradesh;
- Station Area Traffic Improvement: Pune, Maharashtra;
- City Bus Service in Surat on PPP Basis: Surat, Gujarat;
- Dattak Vasti Yojana (Slum Adoption Scheme): Mumbai, Maharashtra;
- Accounting Reforms in Urban Local Bodies of Karnataka: ULBs, Karnataka;
- Ahmedabad Property Tax Reforms: Ahmedabad, Gujarat;
- Emergency Operations Centre: Mumbai, Maharashtra; and
- Idol Immersion Activities and their Management in Water Bodies: Bhopal, Madhya Pradesh.

To obtain a copy Contact:
Coordinator PEARL Project
National Institute of Urban Affairs (NIUA)
I and II Floor, Core 4B, India Habitat Center, Lodhi Road, New Delhi – 110003, India
Telephone: +91-11-24643576(Director), 24617517, 24617543, 24617769, 24643284
Fax: +91-11-24617513
Website: www.niua.org, www.indiaurbanportal.org
This publication is the second report designed to document Urban Reforms initiated under JNNURM. These are select Best Practices that are structured in the standard format as developed under PEARL. This covers a brief summary, key dates, situation before, the new approach, strategy to develop the initiative, the process, results achieved, sustainability, lessons learnt, recognition and replicability.

The motivation has been to focus on Best Practices in Urban Reforms at State and City Level. This includes case studies from State level (Karnataka, Andhra Pradesh, Orissa, and Tripura) to ULB levels (Ahmedabad, Surat, Pimpri Chinchwad, Bangalore, Hyderabad, Kanpur and Pune) to have optimum level of convergence and synergy from JNNURM cities. Some of the case studies have also been taken up from other cities, which makes this documentation much more enriched in achieving the desired goal of PEARL.

The details of the best practices are also available on www.indiaurbanportal.in

The following best practices are covered in the report:

- Municipal Reform Cell, Government of Karnataka
- Rationalisation of Stamp Duty, Orissa State
- Improved Financial Management of Bhubaneswar Municipal Corporation
- Accounting Reforms in Urban Local Bodies of Karnataka
- Property Taxation, Ahmedabad, Gujarat
- Property Taxation, Bangalore, Karnataka
- Property Taxation, Hyderabad, Andhra Pradesh
- Property Taxation, Kanpur, Uttar Pradesh
- User Charges for Water Supply, Pune, Maharashtra
- E-Suvidha – e-Governance Initiatives, Pimpri Chinchwad, Maharashtra
- Online Tendering Application, e-Governance Initiatives, Pimpri Chinchwad, Maharashtra
- SMS and Web-Based Complaint Monitoring System, Pimpri Chinchwad, Maharashtra
- e-Governance Initiatives, Ahmedabad, Gujarat
- GIS Survey of Moradabad Nagar Nigam, Moradabad, Uttar Pradesh
- Implementation of the Web-Based Online Building Plan Approval System, Surat, Gujarat
- Streamlining of Building Plan Approval Process, Pune, Maharashtra
- Computer - Aided Administration of Registration Department, Andhra Pradesh Government
- Registration of Property Document, Karnataka State Government

To obtain a copy Contact:
Coordinator PEARL Project
National Institute of Urban Affairs (NIUA)
I and II Floor, Core 4B, India Habitat Center, Lodhi Road, New Delhi – 110003, India
Telephone: +91-11-24643576(Director), 24617517, 24617543, 24617769, 24643284
Fax: +91-11-24617513
Website: www.niua.org, www.indiaurbanportal.org
### BEST PRACTICE FORMAT

#### “Peer Experience and Reflective Learning” (PEARL) under JNNURM
Best Practices Format

<table>
<thead>
<tr>
<th>Key Informations about the project and instructions on filling up the form</th>
</tr>
</thead>
</table>

1. **About the project:**

To achieve objectives of the Jawaharlal Nehru National Urban Renewable Mission (JNNURM), knowledge sharing amongst JNNURM cities in various sectors of urban reforms and city governance has emerged as a potential area for capacity building. It is felt that cities identified under JNNURM, for financing urban infrastructure and other aspects of urban development, can network amongst themselves for cross learning and sharing knowledge, hence effectively manage their cities. “Peer Experience and Reflective Learning” (PEARL) is an initiative under JNNURM to support cities to actively pursue activities in implementation of projects and reforms.

Therefore, cities with similar urban issues and character are brought together. The cities have been divided into five groups, namely, (a) Mega Cities; (b) Industrial Cities; (c) Mixed economy; (d) Heritage Cities; and (e) Cities of Environmental Importance. A Network Convener and potential Knowledge Managers (KMs) were also identified for each Group.

The main objective of PEARL is to create manageable networks between JNNURM cities for cross learning and sharing knowledge on urban reforms and city governance so that objectives of the mission can be successfully achieved to make cities more livable, economically vibrant and environmentally sustainable. The primary objective is to ensure smooth functioning of the PEARL Networks and assist the Mission Directorate in supporting and monitoring the program. Focus of PEARL activities will be on various processes and outcomes of JNNURM-projects and reforms. There is also a need to focus on the sharing of experiences on urban reforms and city governance and to sustain PEARL beyond JNNURM.

2. **About the PEARL Portal and Best Practices:**

The proposed PEARL website – India Urban Portal (www.indiaurbanportal.in), is the gateway to the 63 cities under JNNURM and shall be linked to the main website of JNNURM. The portal is envisaged as a ready reference to best practices in planning, projects, reforms, accessible data/ resources and other innovations. The goal is to create an information network, community and resource that will provide qualified, trusted and variable information. It will also provide the stakeholders, a knowledge-sharing platform for interaction and discussion.

The website will:

- Act as a platform to share knowledge among governments at national, state, and local levels as well as community groups and citizens in JNNURM cities;
- Focus on linking Urban Local Bodies with community groups in the JNNURM cities;
- Provide information on organizations, techniques, technologies, resources, innovations, best practices, etc. for the projects and reforms;
- Support outputs of JNNURM in terms of planning and implementation of projects and reforms; and
- Help to set up discussion forums, news, guidance, etc. among JNNURM cities.
3. Best Practices:
You can submit ongoing as well as past projects to this Register.

For example, such projects/programmes/reforms include local or regional projects in education, revitalisation, standardisation, community development, awareness raising, capacity building, documentation, use of new technologies, urban governance, reforms, PPP, service delivery, shelter and security of tenure, livelihood including micro credit, health and education, social development, urban mobility, etc.

4. Methodology for selection of Best Practice:
Step 1: Identification and selection of best practice through Form I
Step 2: Put up the collected best practice before the technical committee for approval for documentation.
Step 3: Documentation of the best practice.
Step 4: Publishing on website

**FORM I**

General information about your Organisation
(Fill the following queries and provide one page write up about your organisation and project as well)

<table>
<thead>
<tr>
<th>Project Contact Person:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed Address of the Organization/Agency</td>
</tr>
<tr>
<td>Telephone No.</td>
</tr>
<tr>
<td>Office:</td>
</tr>
<tr>
<td>Residential:</td>
</tr>
<tr>
<td>Fax:</td>
</tr>
<tr>
<td>E-mail:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of the Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
</tr>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>NGO</td>
</tr>
<tr>
<td>Co-operatives</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

| Partnering agencies/individuals |

**INFORMATION ABOUT REFORM**
(Illustrative)

A: Context
1. Title of the Reform:
2. Geographic Location:
3. Focus Area:

B: Situation before implementation of Reform
1. Describe in brief (not more than 200 words), the situation as it was before the start of the project: (Describe in narrative form rather than in bullet form):
2. What were the problems/needs addressed by the Reform?
### C. Implementation of the Reform
1. Describe the Reform in narrative form (in 500 words)
2. Goals of the Reform
3. Strategy used to achieve the desired goals
4. Activities implemented to achieve the above goals
5. Challenges/constraints encountered and how it was conquered
6. Outcome of the Reform

### D. Factors of Success
1. Describe the main successful (positive and sustainable) results/factors/conditions for the Reform

### F. Replicability
1. Is the Reform being replicated in any other region

### G. Impact of the Reform
1. Have the Reform been disseminated in any forum and have received any recognition
2. Documentation and Research work/References for the Reform, if any
3. Please enclose any photographs and resource products, paper clippings along with the entry.
4. Any other

PLEASE SEND THIS FORM AS AN ATTACHMENT TO:

cvaidya@niua.org, vdhar@niua.org, nsur@niua.org,

OR

Post/fax a copy to:

Coordinator PEARL Project
National Institute of Urban Affairs (NIUA)
I and II Floor, Core 4B, India Habitat Center, Lodhi Road, New Delhi – 110003, India
Telephone: +91-11-24643576(Director), 24617517, 24617543, 24617769, 24643284
Fax: +91-11-24617513
Website: www.niua.org, www.indiaurbanportal.org

THANK YOU FOR YOUR PARTICIPATION