



Total Synergy Consulting

Urban Management and Smart Cities

Total Synergy Consulting (TSCPL),

founded in 1988, is a multidisciplinary consulting company with a broad specialization in international development, management and IT consultancy.

25 year experience

175 Projects

24 Countries

In addition to our core team, we regularly work in collaboration with a team of over 100 national and international leading experts in diverse fields, including health, education, urban development, financial and social and social inclusion, skills development, livelihoods, and engineering.





TSCPL Themes

Governance and Institutional Development

TSCPL provides a multidisciplinary support in the area of governance and institutional development based on three main pillars: research and knowledge management, training and capacity building and project management.

We have carried out scoping assessments, research studies, and best practice documentation in a diverse range of sectors. We have strong competence in carrying out field research and action research integrating participatory methods. Our approach to carrying out research and studies is based on:

- Identifying the assessment parameters
- Developing the research framework based on the parameters
- Identifying the most suitable methodology for data collection, information gathering and desk research
- Ensuring appropriate sampling and representation
- Carrying out in-depth analysis
- Presenting findings and outcomes in a structured, useful manner

Over the years, TSCPL has conducted numerous training workshops on Public Financial Management, Monitoring and Evaluation and e-Governance for over three thousand senior and middle level executives, professionals and academicians. We developed a wide range of training and advisory services in the field of institutional development and organisational strengthening. TSCPL has the consulting capabilities to support capacity building for institutional and organizational development at all levels, involving both governmental and non-governmental bodies.

In the area of project management, TSCPL provides support in the following areas: establishing project management units; developing work processes and organograms; providing training and capacity building in project management; strengthening project monitoring and reporting in systematic manner; detecting challenges, risk factors and mitigating risks; promoting lessons learning and knowledge transfer.

E-Governance

TSCPL has extensive experience in designing and implementing large and customized Management Information Systems (MIS) for a variety of applications, including: Monitoring & evaluation systems; Web-based database management systems; Project management information systems; Revenue billing & collection; Inventory management systems.

TSCPL provides support to a range of projects in GIS integration linking spatial and non-spatial data that can improve coordination and outcomes of different development interventions in a country.

We also provide support services in ICT procurement management, Systems Requirements Specifications, Testing, and Deployment apart from Capacity Building developing Databases, websites, web-portals, Business Process Re-engineering including identifying and studying gaps in the processes of businesses and governments, addressing their change management needs as well as devising ways to improve them, e- tools and e-learning.

TSCPL Sectors





Smart Cities

The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes. Area-based development is transforming existing areas (retrofit and redevelop), including slums, into better planned ones, thereby improving livability of the whole City. New areas (green field) are also being developed around cities.

The Challenge: Rapidly Growing Cities That Already Face Severe Challenges

For the first time in history, there are more people living in cities than in rural areas. According to UN projections, the share of the urban population will further increase to reach 66% by the year of 2050.

Globally, cities are growing at a rate of 70 million individuals per year – i.e. by almost 200,000 a day – leading to a total number of over 6 billion citizens occupying urban areas by the year of 2030.

Over the next 15 years, Indian cities alone will grow by 12 million inhabitants annually. 600 million Indians will live in cities by 2030 – up from 370 million in 2011. By that time, 70 Indian cities will have more than 1 million citizens.

To accommodate the stream of incoming urban dwellers in India, retail and commercial space equal to the size of a city like Chicago will need to be added year by year. It is projected that around one trillion US Dollars will have to be invested into urban infrastructure in India by 2030.

However, the way they are set up today, our cities will not be able to handle such rapid rates of urbanization. Globally, urban areas already account for 75% of primary energy use and for more than 70% of global greenhouse gas emissions. By 2025, more than 5 million tons of municipal solid waste (MSW) will be produced on a daily basis while currently, three quarters of MSW go into landfill. Close to one billion people are estimated to live in slums today, not having sufficient access to basic health services, education, or formal employment.

Cities are on the brink of collapse as problems are mounting. The World Health Organization predicts that unmanaged urbanization will lead to a dramatic increase in air pollution and the incidence of diseases, higher levels of violence and unemployment, and an unprecedented loss in biodiversity.



The Opportunity: Creating Smart Cities to Improve Human Life

Our cities' physical and social infrastructure has to adapt to rates of rapid urbanization in order to deal with the challenges outlined above. If we want to create livable places for the majority of humankind, managing this process of transformation has to be at the top of the development agenda for the 21st century.

As we embark on an urban future, we have to seize the opportunity to rethink our cities to turn them into resource efficient, socially inclusive, economically dynamic, environmentally sustainable, and intelligently managed spaces for human coexistence. We have to seize the opportunity to create smart cities.

From the number of available parking spots in a certain neighborhood, to the current utilization of the electricity grid, to the frequency of someone reporting symptoms of the flu – cities constantly produce large amounts of data. Capturing and analyzing this “big data” allows us to enhance human life by tailoring public service provision and transportation systems, increasing resource use efficiency, and opening up promising avenues for sustainable growth.

The urgency for rethinking our concept of the city and to add “smartness” to ever-growing urban areas has been recognized and is being addressed by the public and private sectors alike. Industry provides the necessary hardware, the “Internet of Everything”, the “operating system” of a smart city; governments set the political and legal framework to enable emergence of the smart city.

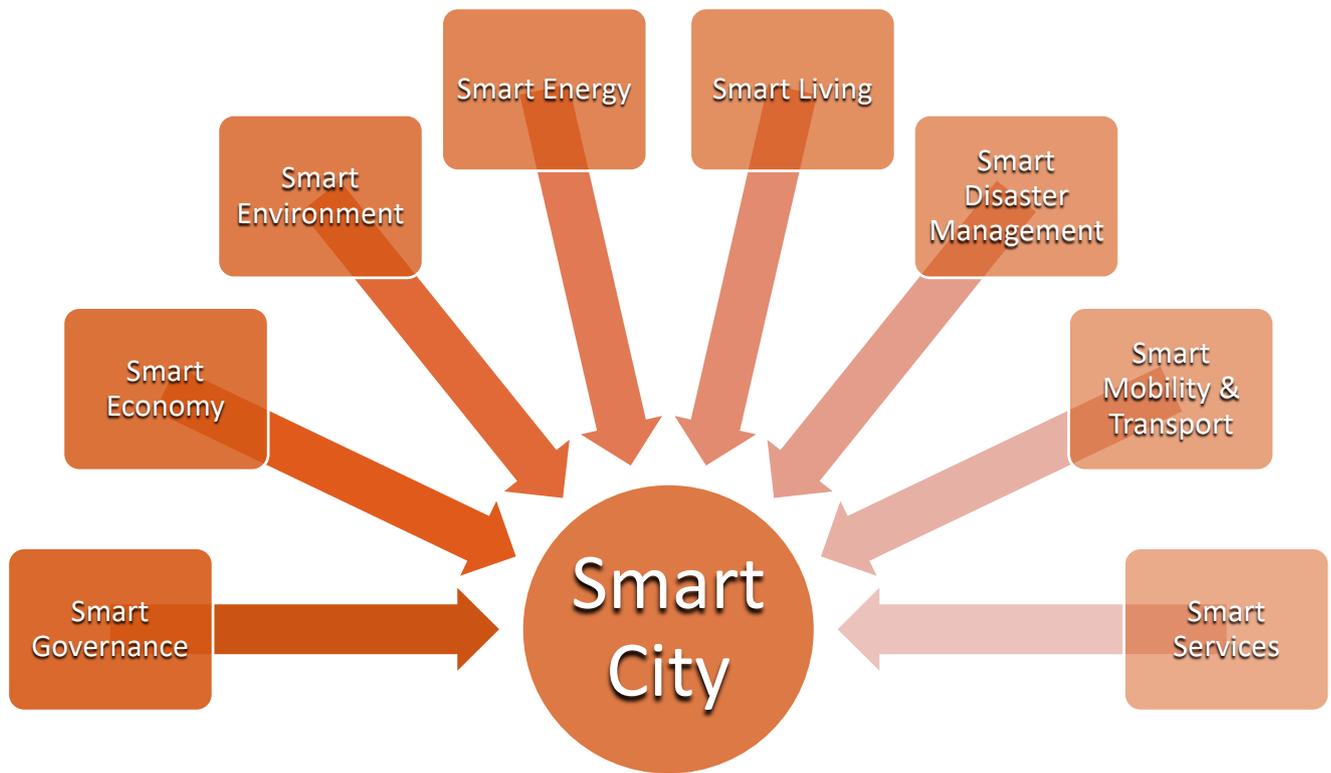
The Smart City Mission was launched by Prime Minister Narendra Modi on June 25, 2015. A total of ₹98,000 crore (15 billion US Dollars) has been approved by the Indian Cabinet for the development of 100 smart cities and rejuvenation of 500 others. Model cities and pilot projects are emerging all around the globe. International conferences and summits are taking place to further shape the concept of the smart city and to push for its adoption. The global market for smart-city technologies is expected to reach a value of 7 trillion US Dollars by 2020.

Thematic Coverage

The first question is what is meant by “Smart City”. There is no universally accepted definition of a Smart City. The conceptualization of Smart City varies depending on the level of development, willingness to reform, resources and aspirations of the city residents. A Smart City would have a different connotation in India than in Europe and even in India, there is no one way of defining a Smart City.

In the approach to the Smart Cities Mission, the focus is on sustainable and inclusive development and the idea is to set examples that can be replicated within and outside the city. The objective is to promote cities that provide core infrastructure, give a decent quality of life in a clean and sustainable environment and apply ‘Smart’ Solutions.

The core infrastructure elements in a Smart City would include: adequate water supply, assured electricity supply, sanitation, including solid waste management, efficient urban mobility and public transport, affordable housing, robust IT connectivity and digitalization, good governance, e-Governance and citizen participation, sustainable environment, safety and security of citizens, health and education.



Smart Governance

Making governance cost effective and citizen-friendly rely on online services to bring about accountability and transparency, especially using mobiles to reduce cost of services and providing services without having to go to municipal offices and forming e-groups to obtain feedback and use online monitoring of programs. The main features of smart governance are the following:

- Public information, grievance redressal
- Electronic service delivery
- Citizen engagement
- Citizens - City's eyes and ears
- Video Crime Monitoring

Smart Economy

Building a smart economy means promoting three economic priorities that will reinforce the use of IT:

- Smart Growth: development of an economy based on knowledge and innovation
- Sustainable growth: promotion of a more resource-efficient and more competitive economy
- Intensive growth: promotion of high rates of employment in order to develop the territorial and social cohesion

Building a smart economy also means giving an identity to the city - based on its main economic activity, such as local cuisine, health, education, arts and craft, culture, sports goods, furniture, hosiery, textile, dairy, etc.

Smart Environment and Smart Energy

Reducing the city's ecological footprint in a sustainable manner, especially by using new knowledge and technologies:

- Preserving and developing open spaces - parks, playgrounds, and recreational spaces in order to enhance the quality of life of citizens, reduce the urban heat effects in Areas and generally promote eco-balance
- Converting waste into Energy, fuel or compost
- Providing waste water treatments
- Recycling and Reduction of C&D waste
- Providing smart meters & management
- Promoting leakage identification and preventive maintenance
- Providing water quality monitoring
- Providing renewable sources of energy
- Providing energy efficient and green buildings

Smart Living

- Promoting mixed land use in area based developments—planning for 'unplanned areas' containing a range of compatible activities and land uses close to one another in order to make land use more efficient. The States should enable some flexibility in land use and building bye-laws to adapt to change
- Housing and inclusiveness - expand housing opportunities for all

Smart Disaster Management

Disasters can cause great economic and human losses. Transportations and IT services play a crucial role in disaster response and management. Being a Smart City implies to apply Smart Solutions to infrastructure and services in area-based and to provide emergency response systems and resilience.

Smart Services

Promoting citizen targeted Smart services is crucial to facilitate interactions, meet the social needs and drive the economy forward.

- Tele-medicine & tele-education
- Incubation/trade facilitation centers
- Skill development centers

Smart Mobility and Transport

- Creating walkable localities - reduce congestion, air pollution and resource depletion, boost local economy, promote interactions and ensure security.
- Promoting a variety of transport options - Transit Oriented Development (TOD), public transport and last mile para-transport connectivity
- Promoting smart parking
- Developing an intelligent traffic management system
- Providing Integrated multi-modal transport

TSCPL's Approach: Lead, Connect, Provide Solutions

The rapid growth of cities and increasing burden on infrastructure creates new requirements for effective urban management. TSCPL has key expertise working in Urban development consulting for the past two decades. We have worked with national and state level organizations and with many ULB's across the country apart from international work in the region.

TSCPL's Approach: Lead, Connect, Provide Solutions

TSCPL leads innovation. An evolving concept needs bold innovators to nurture it and help it come to fruition. TSCPL combines an extensive experience in sectors like governance, urban planning, and socially and environmentally sustainable development with expertise in the deployment of cutting-edge IT solutions. Based on this unique position and its access to a vast network of experts, TSCPL initiates discussions to further sharpen the smart city concept. TSCPL is a leader in the discourse on smart cities.

TSCPL connects stakeholders. Making a city smart requires a large number of actors to cooperate. Decision-makers, business leaders, civil society, and researchers all have to sit down at one table to co-create a vision for their smart city and advocate for its implementation. TSCPL, through its experience in working with the public and private sector as well as with for-profit and not-for-profit clients, connects these actors. On this website, you will find information on upcoming events to meet experts and to mingle with potential partners for your smart city project.

TSCPL provides solutions. Smart cities do not only require the adoption of new information and communication technologies (ICT). The technological infrastructure has to be appropriate for existing administrative structures to allow for maximum use of the newly generated and analyzed data. What works in Dubai and Lagos may fail in Delhi and London. Based on TSCPL's expertise in the ICT and e-Governance sectors as well as in fiscal and financial management, the company is a competent partner for providing professional advice and solutions for cities around the globe. You are invited to explore this website to learn about TSCPL's latest projects, to feel inspired, and to connect with TSCPL to discuss your organizations' contribution to the exciting and dynamic development of smart cities.

TSCPL has worked with a number of state governments and municipal organizations to develop improved urban services related to water supply, sanitation and waste management. Total Synergy provides service packages responding to the increasing need for rural and urban infrastructure development improvement and re-designs where appropriate, based on our association with national and international experts in this field. We are able to bring together teams with required competencies including institutional development, public administration, urban planning, engineering and environmental management, employment generation, and community participation. Our experience includes projects addressing:

- Poverty reduction
- Employment generation
- Community participation
- Water supply upgrading and Waste management
- Land use and slum improvement

Our work enables government agencies to improve sector performance by developing new partnership approaches to service delivery. We are able to work at both state and municipal level in a range of areas, including:

- Identifying opportunities for private sector participation
- Designing frameworks for private-public partnerships



TSCPL Services

Getting the Context: Assessment & Diagnostics

Providing an analysis of the situation, identification of the key challenges regarding the economic, social and legal situation and the institutional infrastructure

Carrying out investigations, designing, preparing feasibility reports, Preliminary Design Report/Detail Design Report (PDR/DPR)

Defining the Smart City Plan

Preparing the Smart City Vision (5 years plan) and mission.

Defining overall strategies clearly stating the objectives based on the Smart City Mission (SCM) guidelines.

Preparing Smart City Proposals (SCP) containing area improvement (retrofitting), city renewal (redevelopment), city extension (green field) and city wide (Pan-City) Initiatives that apply Smart Solutions in order to participate in the Challenge.



Supervising & Monitoring the implementation

Supporting the Smart City in overall project management including designing, developing, managing and implementing Smart City projects.

Supporting the Smart City SPV for any allied urban development projects towards achieving the city's vision of urban transformation.

Coordinating all the Stakeholders

Developing financing plans for the complete life cycle of the proposal which identify internal and external sources of funds for capital investments and operation and maintenance.

Assisting in the supervision & monitoring of the work of implementing agencies.

Achieving citizen-driven proposals through citizen consultations which will identify issues, needs and priorities.



The International Course on Smart Cities

How to make a Smart City Work?

How to finance a Smart City initiative?

How to promote a smart economy?

How to attract people and investment under global competition?

How to measure success?

Who are the stakeholders?

What guidelines are there to be followed?

What technology to apply?

What does the planning process look like?

The International Course on Smart Cities (ICSC) is designed to provide answers to these questions. It aims at providing practitioners the tools they need to create the cities of tomorrow. We provide practitioners with a framework to make Smart Cities work, and to address the challenges of this urban century.

Addressing the Challenge: From Ad-hoc Actions to a Structured Framework

Technology alone does not turn any city into a smart city. A well-thought-out framework is needed to identify appropriate technologies and policies for a city to become “smart”. The International Course on Smart Cities enables participants to develop and apply a well-structured Smart City framework, enabling responsive city specific strategies.

Course Objectives

By the end of the course, the course participants should be able to:

- Define the concept of Smart Cities and apply it to solve challenges emerging from rapid urbanization
- Understand various components of Smart Cities
- Identify and apply a systematic, strategic planning approach for developing implementation design of Smart Cities
- Understand the role and relevance of various stakeholders for the development of Smart Cities
- Identify forms of available public private partnerships and build partnerships as mechanisms for mobilizing private finance

The International Course on Smart Cities provides practitioners and decision-makers with deep insights into all components of the smart city...

...and helps them integrate such components into one smart-city concept, offering tools to strategically implement such holistic concepts in their specific context.

Methodology

TSCPL has conducted a series of successful multi city workshops and training programs on a range of topics. These trainings were designed for the government as well as the private sector, both on the domestic and international fronts, across nations like the Netherlands, United Kingdom, Thailand, Sri Lanka and Nepal, amongst others. TSCPL has a diverse set of expertise on E-Governance, MIS, GIS and other sectors. Institute for Housing and Urban Development Studies at Erasmus University Rotterdam (IHS), one of Europe's leading academic institution for urban management and housing studies, has a proven track record of teaching high-impact courses. Working in collaboration, TSCPL and IHS have designed the International Course on Smart Cities (ICSC) an innovative course focusing on the emergence of Smart Cities. The course employs a range of proven and innovative training methodologies. The learning activities include classroom presentations, interactive sessions, group discussions and assignments, and guest lectures by well-known practitioners.

The course provides decision-makers and practitioners with theoretical knowledge about all components of the smart city on one hand, and with a toolbox and methodologies for making their cities smarter on the other. The course will be split in modules, covering the eight components of a Smart City.

Applied planning and stakeholder mapping exercises will enable participants to prioritize the development issues faced in their cities, work with a systematic method of defining problems and explain the link between problems, goals and objectives to develop strategies for tackling problems using relevant Smart City concepts and components.

Smart Governance

Smart Disaster Management

Smart Environment and Smart Energy

Smart Services

Smart Economy

Smart Mobility and Transport

Smart Living



**TSCPL's Work in E-Governance
and Urban Development**





Supporting Jammu & Kashmir Urban Sector Development Investment Program

The project aimed to enhance and strengthen sustainable economic growth of the urban areas of J&K with emphasis on promoting commerce and improvement of livelihoods of the poor. It also targeted to Improve the public health and urban environment and provide better living conditions for people living in Jammu, Srinagar and other participating towns.

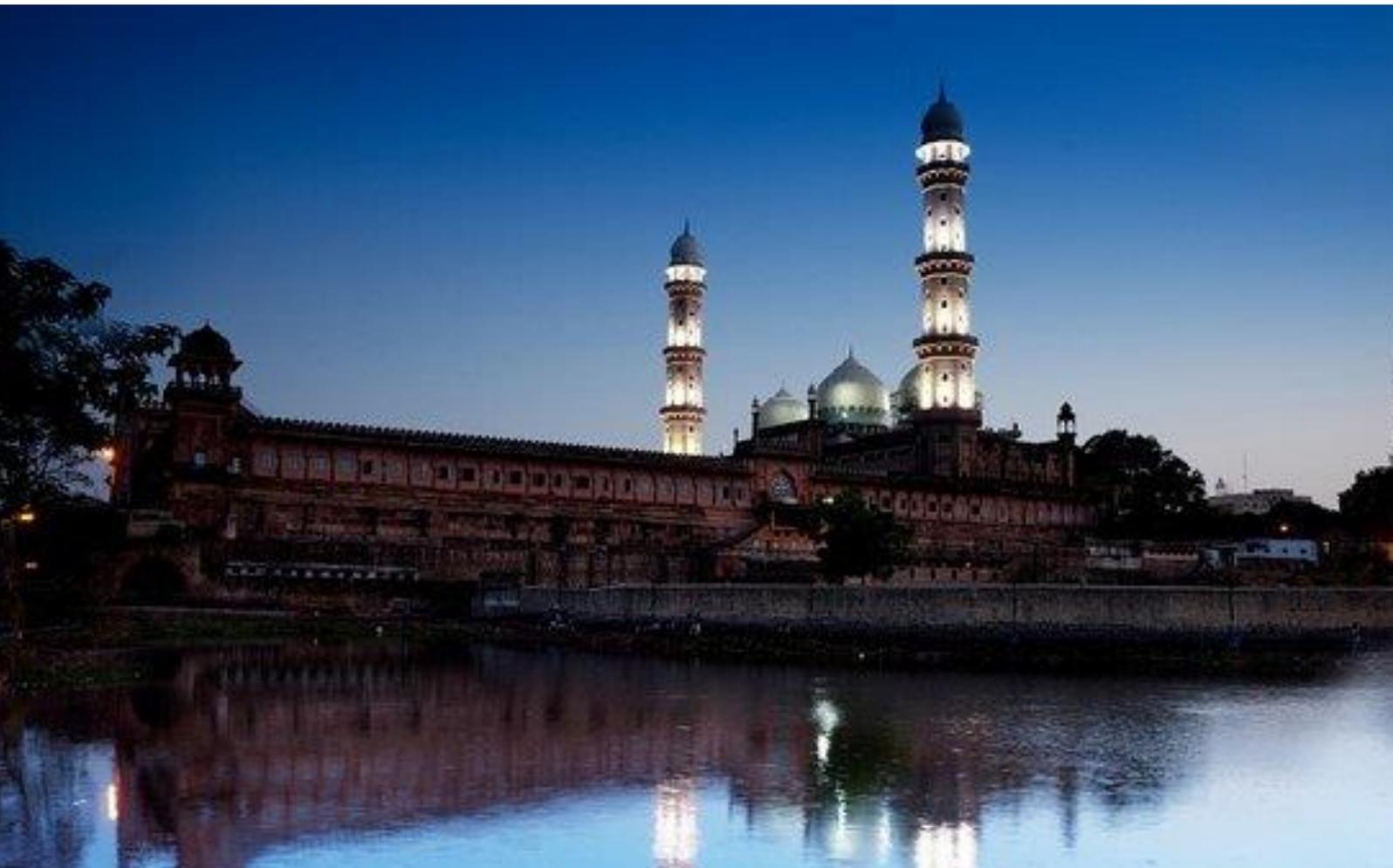
TSCPL provided technical assessment in reviewing and researching e-governance system improvements; RFP development in preparing the terms of reference (TOR's) and cost estimation for the establishment of an accounting system and e-governance system; capacity building for State Pollution Control Board, including e-governance system.

Providing a Detailed Project Report (DPR) for E-governance in 3 JNNURM Mission Cities - Bhopal, Indore & Jabalpur -

“E-Governance in Municipalities” is one of the various Mission Mode Projects (MMP’s) identified under National E-Governance Plan (NeGP) under Ministry of Urban Development as part of Jawaharlal Nehru National Urban Renewal Mission (JNNURM). It aims at creating “Economical, productive, efficient, equitable and responsive cities in an integrated framework with focus on economic and social infrastructure, basic services to urban poor, urban sector reforms and strengthening of Municipal Governments and their functioning”.

The program aimed to: Improve the quality, accessibility and effectiveness of government services for citizens and businesses; speed up processes and improve internal efficiency to provide more efficient delivery of public services; make processes more accountable and transparent; encourage citizen participation in decision making through effective use of ICT; and reduce costs and increase revenues.

A DPR was prepared in order to first assess the current IT infrastructure and capacity of the 3 ULBs of MP and TSCPL proposed a strategy to reach the service level benchmarks that have been set by the Ministry of Urban Development, in accordance with the NeGP. TSCPL also provided capacity building, RFP and carried out the Bid Process Management.





North Eastern Region Capital Cities Development Investment Program

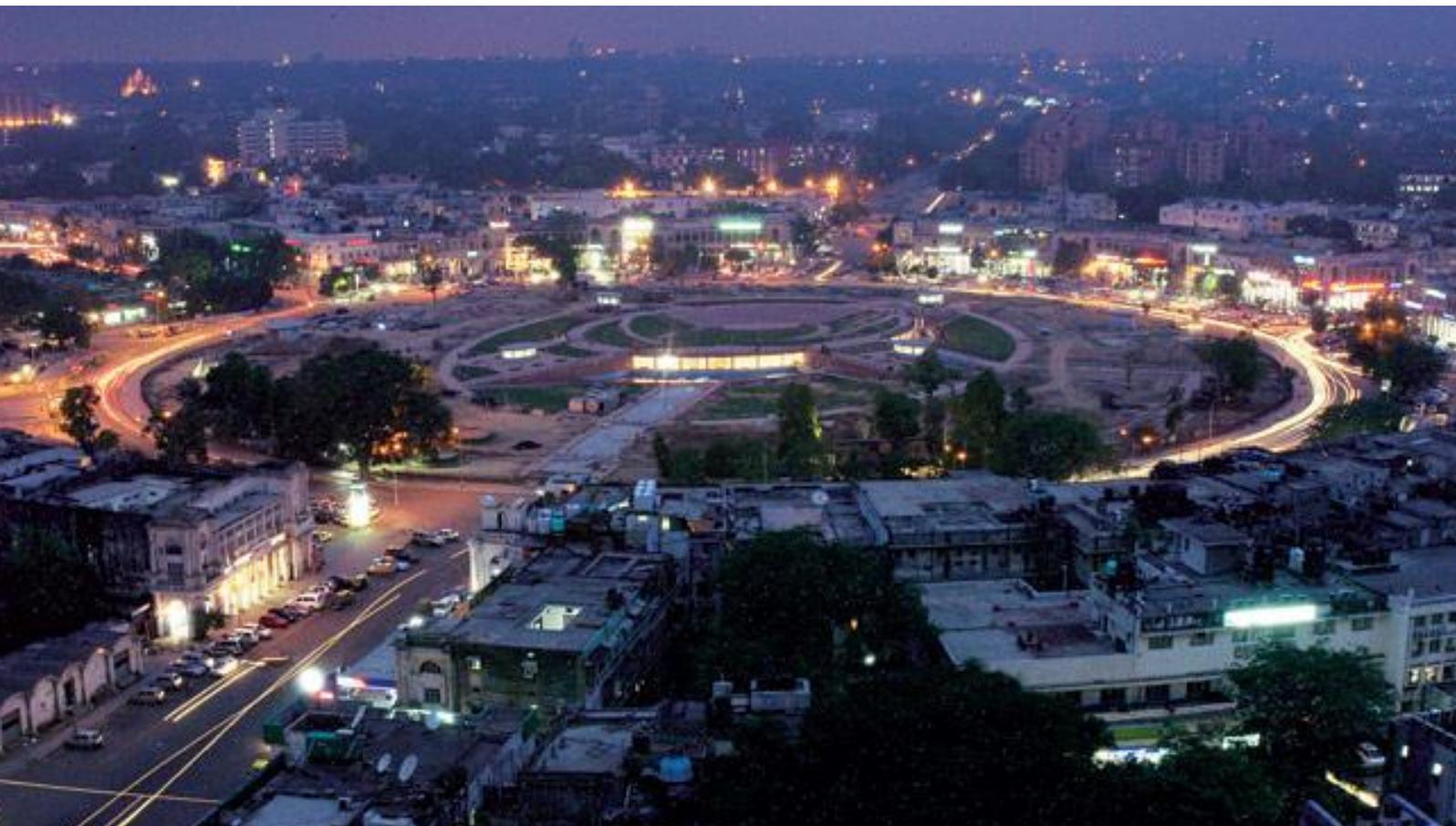
The expected impact of the program was increased economic growth potential, reduced poverty, and reduced imbalances between NER and the rest of the country. The Investment program was willing to (i) improve and expand urban infrastructure and services in the cities including in slums and (ii) strengthen urban institutional, management, and the financing capacity of the institutions, including the urban local bodies. The Investment Program was willing to ensure that the benefits from investments are enjoyed by the poor, women and all other vulnerable groups, and that any negative environmental and social impacts are alleviated.

TSCPL helped covering urban infrastructure and services improvement including the rehabilitation, improvement and expansion of (i) water supply, (ii) sewerage and sanitation, and (iii) solid waste management; and managed to cover Investment Program management and implementation support and a comprehensive capacity building assistance to support the accomplishment of the urban institutional and financial reform agenda, and enhance planning, operation and maintenance (O&M), revenue mobilization, and financial management capabilities of service providers.

Capacity Building for National Capital Region Planning Board

The expected impact of the project was to: accelerate urban infrastructure development in the National Capital Region, lead to more investment in water supply, sewerage, solid waste management, and urban mass transport, aiming to improve efficiencies in the NCR. TSCPL's work consisted in:

- Providing a technical assessment : review and verify preliminary roads and drainage design proposed; collect all available data, contour maps, details of past schemes and reports; collect historic rainfall data; data on past incidents of water flooding and loss, etc., for the sample ULBs; survey conditions of pavement and assess adequacy of drainage system for existing roads, and inventory detailed conditions of bridges and other cross drainage structures; conduct component specific topographical survey and soil investigations on the proposed alignments for collecting information necessary for engineering design.
- Preparing a base map of the city for drainage with contours related to a storm water drainage inventory for easy identification of the status of the existing drains, canals and their catchment in a form that can be transferred to a GIS.
- Capacity Building: preparing a comprehensive drainage master plan for the ULB and identify missing links and prioritized program of improvement works; Prepare detailed design and drawing for the roads and bridges proposed for the sample ULBs under the Project.



TSCPL Other Practice Areas

Public Financial Management

TSCPL's services in Financial and Fiscal Management aim to build capacity and strengthen financial performance in the following areas:

- Streamlining of operations and efficiency improvement projects;
- Review of budgeting and expenditure systems;
- Upgrading of financial management information systems;
- Advisory services on fiscal and financial management reform;
- Financial and Accounting Software including Tally, COTS, Oracle, SAP;
- Business Process Re-engineering and Process Improvement.

Performance Management, Monitoring and Evaluation

We provide consulting services for the purpose of monitoring and evaluating the progress of projects from initial project and program planning to post-implementation review. Our approach to improved performance management involves working with organizations to translate thinking in terms of inputs and outputs into effective consideration of outcomes and impact.

Clientele

We have undertaken a large number of consultancy projects in the field of international development in general and urban development in particular.

Our clientele is represented by private sector, state, national and foreign governments, as well as international organizations. We have extensive collaboration experience with various international organizations, such as the **World Bank**, **Asian Development Bank**, **Department for International Development**, **United Nations Development Programme (UNDP)**, **US Agency for International Development (USAID)**, **United Nations International Children's Emergency Fund (UNICEF)**, etc.

A number of projects have also been undertaken with NGOs, academic institutions and philanthropic organisations.





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