Developing Sustainable and Inclusive Urban Infrastructure Services

Developing Sustainable and Inclusive Urban Infrastructure Services

A Guidebook for Project Implementers and Policy Makers in India

Indo-US Financial Institutions Reform and Expansion Program—Debt & Infrastructure

MINISTRY OF URBAN DEVELOPMENT
GOVERNMENT OF INDIA

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AECOM

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This guidebook is a publication of the United States Agency for International Development (USAID) Indo-US Financial Institutions Reform and Expansion Program—Debt & Infrastructure, known as the FIRE (D) Program. The mission of the FIRE (D) Program is to institutionalize the delivery of commercially viable urban infrastructure and services at the local, state, and national levels. From 1994 to 2011, the FIRE (D) Program worked to support the development of demonstration projects and of a sustainable urban infrastructure finance system. Other priority areas include:

- Expansion of the roles of the private sector, nongovernmental organizations (NGOs), and community-based organizations (CBOs) in the development, delivery, operation, and maintenance of urban infrastructure, with particular focus on involving and providing services to the poor
- Increased efficiency in the operation and maintenance of existing water supply and sewerage systems
- Strengthened financial management systems at the local level
- Development of legal and regulatory frameworks at the state level
- Continued implementation of the 74th Constitution Amendment Act (1992)
- Capacity building through the development of an urban management training network

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Foreword

With an increasing share of the Indian economy generated within urban areas, cities symbolize much of the optimism and opportunities of the country. Most of the new jobs and growth in gross domestic product (GDP) in India are expected to take place in cities. In addition to accommodating a doubling of urban residents over the next couple of decades, urban infrastructure will have to link urban and rural areas much better. Infrastructure services are in demand, and that demand will grow anywhere from two to five times over the next 20 years, depending on the sector. Outdated infrastructure cannot absorb this anticipated growth in population and increased economic activity, and the level of investment made during the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) will have to be increased even further going forward.

Although the Government of India (GoI) might not be able to pay for the required level of investment, money alone is no longer considered the real challenge affecting urban development. **Urban management poses the biggest challenge to developing quality infrastructure** that can sufficiently respond to market demand for basic services and economic activity. Demand for services-especially basic services-will increasingly come from the poor, who make up the majority of the population in both rural and urban areas, and from the emerging middle class.

The GoI initiated decentralization in 1992 under the 74th Constitution Amendment Act (CAA), and the decentralization process has slowly gained momentum. Decentralized governance has been most successful around the world when a good governance framework, built around local accountability, encourages improved management capacity and public participation. Good governance helps develop more sustainable services that are driven by the demands of urban residents and the local environment. By mobilizing both the public and private sectors, more resources can be utilized to improve services effectively.

While the decentralization agenda is a positive step for India, local capacity will be a primary challenge for some time. Unfortunately, there is no easy way to build local capacity quickly, particularly since cities are complex and dynamic, and the scale and scope of the urban challenges are so large. This guidebook was created in response to the evolving challenges that cities face in their attempts to deliver adequate services.

This guidebook provides an essential description of a proven process to develop sustainable and inclusive urban infrastructure. Based on the cooperative efforts of the Indian and United States governments over the last 17 years, since the passing of the 74th CAA, the United States Agency for International Development (USAID) has funded the Financial Institutions Reform and Expansion Program—Debt & Infrastructure, known as the FIRE (D) Program, to develop and test a comprehensive model. The program has assisted local, state, and national government bodies in India to develop and implement an innovative urban agenda that included market-based financing, improved municipal accounting, better access to urban services by the poor, municipal resource mobilization, a municipal credit rating system, and municipal laws, among other key topics. Many of these innovations were subsequently institutionalized as part of the JNNURM reform agenda.

This guidebook presents the FIRE (D) Program's comprehensive approach, which has slowly evolved over the years, to demonstrate how a sustainable and inclusive urban infrastructure development process can be successfully implemented. The guidebook can benefit government officials, utility employees, private firms, educational institutions, and donors. These stakeholders are divided into two groups in this guidebook: those responsible for policy making and those responsible for project implementation (see the "Note on Policy Making" and the "Note on Implementing Projects"). The intent of this guidebook is to increase each group's understanding of the other's requirements, resources, and constraints, so that all stakeholders can more effectively achieve their common objective of making cities more livable.

For this guidebook, **sustainable and inclusive urban infrastructure refers to municipal services that not only function successfully over the long term, but also cover all segments of the city.** Fundamentally, services that exclude the poor or only cover the city center are not inclusive. Similarly, services that last only a few years and then fall into neglect or disrepair or that deplete an area's natural resources are not sustainable. Infrastructure services function sustainably when long-term environmental, demographic, financial, and managerial considerations receive up-front assessment and incorporation into the design and implementation processes. In this manner, major infrastructure networks-water, sanitation, transportation, and energy-can be sustained successfully for as much as 50 years, more in some cases, before another round of major capital upgrades.

Since infrastructure development is both expensive and time-intensive, it is crucial to get the process right from its conceptual beginnings. Urban settings are complex due to very dense and large populations as well as the diversity and ambiguity of issues that influence project scope. To get the development process right, multidisciplinary teams should be formed to consider each aspect of a proposed project. Each expert brings specific skills and analytical tools to the development process. But even when the right team convenes, someone has to ensure cohesion to make sure that all the different parts fit together appropriately and in a time-sensitive manner.

India has a wealth of experience to draw on to highlight the relevant technical areas covered in this guidebook. Together, these experiences form a comprehensive development model. Yet few places in India have fully implemented the model. Hopefully, today's renewed focus on urban policy and investment in India will produce more interest in adopting a comprehensive approach to infrastructure development. The comprehensive approach promoted in this guidebook is the result of more than 17 years of collaborative work across the sector. The approach represents one of the most well-crafted and -implemented urban program in the country and has affected the way many other donors organize their support to the urban sector. The goal of the approach is to spur the long-term viability of Indian cities, which is beneficial in its own right and which can potentially serve as an example to many other developing countries struggling with the same issues.

This guidebook is divided into three parts, each with multiple chapters and articles. The first part (Chapters 1 and 2) describes the urban context since the early 1990s, when the country fully demonstrated its commitment to economic reforms and decentralization, signaling a major policy shift away from a fundamentally centralized approach to development. This section also introduces the FIRE (D) Program's approach to developing sustainable and inclusive urban infrastructure, and how it is incorporated into the current nationwide initiatives. These include the JNNURM, the Model Municipal Law (2003), and the national municipal accounting standards, among others.

This guidebook is most useful at the subnational levels-both city and state-where policy makers and practitioners operate on the ground to plan and implement infrastructure projects. To this end, the second part of this guidebook (Chapters 3-6) examines the important technical areas that comprise the infrastructure development process. The focus is on planning, resource mobilization at the city level, project development, and financing.[1] The third part of the guidebook (Chapter 7) looks at how the development process can become more institutionalized over time and includes some management-related reforms as well as improvements in professional development and regulations.

1 This guidebook does not cover construction and operations management, although we recognize them as important to implementing and maintaining infrastructure over the long term.

This guidebook was designed as a tool for learning the overall infrastructure development process and for gaining more knowledge of specific aspects. All contributors agree that the dedicated professionals in the sector will have to increase and upgrade their capabilities and knowledge base before the successful "pilot" initiatives of the last decade can be meaningfully expanded across the country and around the world.

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To demonstrate innovative approaches to infrastructure development, the FIRE (D) Program always tried to (1) utilize a consultative, participatory process to accurately diagnose the on-the-ground realities and recommend an implementable way forward; (2) work side-by-side with municipal, state, and central government staff to build consensus around solutions; and (3) rely on the professional capacity of local resources, such as sector experts, consulting firms, research and academic institutions, and nongovernmental organizations. We appreciate both the intellectual and practical challenges that everyone has faced working in the urban sector. We wish to thank everyone who, along with us, has had the patience to produce top-quality technical work time and again. It has allowed us to assemble a formidable body of work and on-the-ground results that everyone can be proud of. The efforts have contributed to important milestones in India's urban development history. The managing partners, TCG International LLC, the National Institute of Urban Affairs, and AECOM International would like to express their gratitude to over 60 partner organizations, whose collective work has been synthesized into this guidebook. There are too many important organizations and people to list separately here, and we would inevitably forget some.

We would also like to thank the approximately 70 Indian cities, 13 states, various government organizations, and other international bilateral and multilateral organizations that have partnered with the FIRE (D) Program. We hope that our contributions and collective energy have helped advance your urban development agenda in a positive way.

Although the guidebook's list of contributors is limited to authors and direct peer reviewers, in reality, everybody we worked with helped create this guidebook in some way. And we hope that everyone will continue to work together to implement the model and carry it forward.

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Abbreviations

ADB	Asian Development Bank
ADDA	Asansol-Durgapur Development Authority
ADRSWM	Asansol-Durgapur Regional Solid Waste Management project
AMC	Ahmedabad Municipal Corporation
AMCo	Asset Management Company
ASP	Ankuram Sangamam Porum
ATR	Action Taken Report
AUA	Asansol Urban Area
BDA	Bhubaneswar Development Authority
BDP	Basic Development Plan
BISWA	Bharat Integrated Social Welfare Agency
BMC	Bhubaneswar Municipal Corporation
BOT	Build-Operate-Transfer
BOOT	Build-Own-Operate-Transfer
BoQ	Bill of Quantities
BPL	Below Poverty Line
BPR	Business Process Reengineering
BSUP	Basic Services for the Urban Poor
BWSSB	Bangalore Water Supply and Sewerage Board
C&AG	Comptroller and Auditor General
CAA	Constitution Amendment Act
CAPF	Capital Fund
CARE	Credit Analysis and Research, Limited
CASLB	Committee on Accounting Standards for Local Bodies
CDP	City Development Plan
CETP	Common Effluent Treatment Plant
CFC	Central Finance Commission
CII	Confederation of Indian Industry
CIP	Capital Investment Plan
CMA	City Managers Association
CREF	Credit Rating Enhancement Fund
CRISIL	Credit Rating and Information Services of India Ltd.
CSP	City Sanitation Plan
CV	Curriculum Vitae
CVIP	Commercially Viable Infrastructure Project
D2D	Door-to-Door
DCA	Development Credit Authority
DDA	Delhi Development Authority
DEA	Department of Economic Affairs
DEAAS	Double-Entry, Accrual Accounting System
DP	Development Plan
DPR	Detailed Project Report
EIA	Environmental Impact Assessment
EMAS	Environmental Management and Audit Scheme
EOI	Expression of Interest
EPC	Environmental Planning Collaborative
ERP	Enterprise Resource Planning
ERR	Economic Rate of Return
ESF	Environmental and Social Framework
ESR	Environmental Status Report
FAR	Floor Area Ratio
FICC	Federation of Indian Chambers of Commerce
FIDIC	Fédération International des Ingénieurs Conseils
FIRE (D)	Financial Institutions Reform and Expansion Program—Debt & Infrastructure
FOP	Financial Operating Plan
GAAP	Generally Accepted Accounting Principles

GBWSP	Greater Bangalore Water Supply Project
GDP	Gross Domestic Product
GIS	Geographic Information System(s)
GO	General Obligation
GoI	Government of India
GoK	Government of Karnataka
GoM	Government of Maharashtra
GoO	Government of Orissa
GoTN	Government of Tamil Nadu
GoWB	Government of West Bengal
GPS	Global Positioning System
HDFC	Housing Development Finance Corporation
HH	Household
HIG	Housing Investment Guarantee
HR	Human Resources
HUDCO	Housing and Urban Development Corporation
HUDD	Housing and Urban Development Department
IAS	Indian Administrative Service
ICAI	Institute of Chartered Accountants of India
ICMA	International City/County Managers Association
ICRA	Investment Information and Credit Rating Agency
ICT	Information and Communication Technologies
iDeCK	Infrastructure Development Corporation Limited of Karnataka
IDFC	Infrastructure Development Finance Company Limited
IFAC	International Federation of Accountants
IL&FS	Infrastructure Leasing and Financial Services
IMC	Indore Municipal Corporation
IPSAS	International Public Sector Accounting Standards
IPSASB	International Public Sector Accounting Standards Board
IRR	Internal Rate of Return
ISHUP	Interest Subsidy Scheme for Housing the Urban Poor
IT	Information Technology
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KUDP	Karnataka Urban Development Project
KUIDFC	Karnataka Urban Infrastructure Development Finance Corporation
KWSPF	Karnataka Water and Sanitation Pooled Fund
LAP	Local Area Plan
LED	Local Economic Development
LIC	Life Insurance Corporation
lpcd	Liters Per Person Consumed Daily
MCD	Municipal Corporation of Delhi
MCJ	Municipal Corporation of Jabalpur
MFI	Microfinance Institution
MIS	Management Information System
MIT	Ministry of Information Technology
mld	Million Liters per Day
MMRDA	Mumbai Metropolitan Regional Development Authority
MML	Model Municipal Law
MoEF	Ministry of Environment and Forest
MoF	Ministry of Finance
MoUD	Ministry of Urban Development
MPC	Metropolitan Planning Committee
MSDF	Michael and Susan Dell Foundation
MSS	Management Support Services
MSW	Municipal Solid Waste
NeGP	National E-Governance Plan
NHB	National Housing Bank
NIUA	National Institute of Urban Affairs
NMAM	National Municipal Accounting Manual
NMMP	National Mission Mode Project
NGO	Nongovernmental Organization
NOC	No Objection Certificate
NTADCL	New Tiruppur Area Development Corporation Limited
O&M	Operations and Maintenance
OWSSB	Orissa Water Supply and Sanitation Board
PAS	Performance Assessment System

PCMC	Pimpri Chinchwad Municipal Corporation
PDC	Project Development Company
PDD	Project Definition Document
PDF	Project Development Fund
PEARL	Peer Experience and Reflective Learning
PFDF	Pooled Finance Development Fund
PFDS	Pooled Finance Development Scheme
PHEO	Public Health Engineering Organization
PIU	Project Implementation Unit
PMC	Pune Municipal Corporation
PMU	Project Management Unit
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Partnership
PSP	Private Sector Participation
QBS	Quality-Based Selection
QCBS	Quality and Cost-Based Selection
RBI	Reserve Bank of India
RCUES	Regional Centers of Urban and Environment Studies
RDF	Refuse Derived Fuel
RFP	Request for Proposals
RFQ	Request for Qualifications
RoE	Return on Equity
SDO	Structured Debt Obligation
SEA	Strategic Environmental Assessment
SEBI	Securities and Exchange Board of India
SEIAA	State Territory Environment Impact Assessment Authority
SEWA	Self-Employed Women's Association
SFC	State Finance Commission
SHG	Self-Help Group
SIO	Slum Improvement Officer
SJSRY	Swarna Jayanti Shahari Rozgar Yojana
SLF	Sanitary Landfill
SPARC	Spatial Planning & Analysis Research Centre
SPCB	State Pollution Control Board
SPV	Special Purpose Vehicle
STEIAA	State Territory Environment Impact Assessment Authority
SWM	Solid Waste Management
SWOT	Strengths-Weaknesses-Opportunities-Threats
TACID	Tamil Nadu Corporation for Industrial Infrastructure Development Limited
TADP	Tiruppur Area Development Program
TCE	Tata Consulting Engineers
TCG	The Communities Group
TDC	Total Development Cost
TEA	Tiruppur Exporters Association
TERI	The Energy and Resources Institute
TM	Tiruppur Municipality
TNUDP	Tamil Nadu Urban Development Project
TNUDF	Tamil Nadu Urban Development Fund
TNUIFSL	Tamil Nadu Urban Infrastructure Financial Services Ltd.
TNPCB	Tamil Nadu Pollution Control Board
TOD	Transit-Oriented Development
TOR	Terms of Reference
TRA	Trust and Retention Account
TWIC	Tamil Nadu Water Investment Corporation
UIF	Urban Infrastructure Fund
ULB	Urban Local Body
URIF	Urban Reforms Incentive Fund
USAID	United States Agency for International Development
UTPCC	Union Territory Pollution Control Committee
VGF	Viability Gap Fund
VMC	Vijayawada Municipal Corporation
WASH	Water, Sanitation, and Health
WDR	World Development Report
WHO	World Health Organization
WSP	Water and Sanitation Program
WSPF	Water and Sanitation Pooled Fund

Principles for Sustainable and Inclusive Infrastructure Development

Every infrastructure project entails physical development, as well as development of financial mechanisms and management structures to ensure quality service delivery. Few infrastructure projects are implemented perfectly; most are not even perfectly conceived. But experience shows that the better conceived and developed a project is, the greater the likelihood that the project will have successful outcomes. While each infrastructure project has unique challenges, inputs, and outputs, most can benefit from the standardized approaches offered in this book. The FIRE (D) Program experience clearly demonstrates that applying principles shown below leads to better development outcomes.

1. **Sustainability.** The sustainability of municipal services has physical, financial, and social dimensions. Infrastructure must be maintained in good working condition over the long term, and operated in safe working conditions. The services provided should not only contribute to public health, but also improve the environment and preserve natural resources. And tariffs have to avoid creating unacceptable financial risks for the institutions that deliver the services, while still ensuring affordability for users.

2. **Social inclusion.** Service providers should pay special attention to providing public services to segments of society that are normally excluded, such as the poor, migrants, lower castes, or tribal people, because they systematically have greater difficulty accessing regular services. Infrastructure should be planned to serve all, and to accommodate diverse situations of income, education, and use.

3. **City-wide expansion consistent with urban growth.** Infrastructure investment should reflect current development patterns and future goals. City-wide provision of services requires that new infrastructure be developed as cities grow, while simultaneously addressing gaps in already established areas. A comprehensive approach must accommodate slum communities, high-density development, economic activities, and the urban periphery, while preserving traditional urban neighborhoods.

4. **Transparency.** Without regular data collection and disclosure, it is difficult to monitor and then improve upon institutional performance. Internally, managers can make good decisions only if they are presented with good information. External support (from government or donors or investors) can be effective when the performance of services is clearly understood. Only when this information is disclosed and communicated effectively can citizens fairly hold leaders accountable.

5. **User participation.** Stakeholders should help define service requirements and have a voice in prioritizing infrastructure projects that will deliver these services. The best way to understand and plan for these needs and desires is to consult with diverse groups of residents, business leaders, local government leaders, civic organizations, and technical experts. Participation contributes to better-conceived projects and facilitates resolution of the inevitable conflicts that arise in every complex infrastructure project.

6. **Market orientation.** To be commercially viable or "bankable," the public service has to sustain itself financially over the long term. This means that costs should be covered by tariffs and explicit subsidies, and that revenue, costs, and management practices are predictable and transparent to investors. When services are not commercially viable, a blend of financial resources from government grants, tariffs, and/or general revenues can achieve the same service objectives. In this way, grants and donor funding can leverage rather than crowd out long-term private investment.

7. **Institutional capacity.** Effective organizations with well-defined areas of responsibility are needed to provide city-wide, sustainable, and inclusive public services. These organizations must: (1) establish clear plans and rules for service provision; (2) regulate and monitor service quality; (3) coordinate infrastructure project development (either directly or indirectly through the private sector); and (4) deliver services efficiently and equitably. Within this mandate, institutions must be managed professionally, open to public scrutiny, and accountable to their customers.

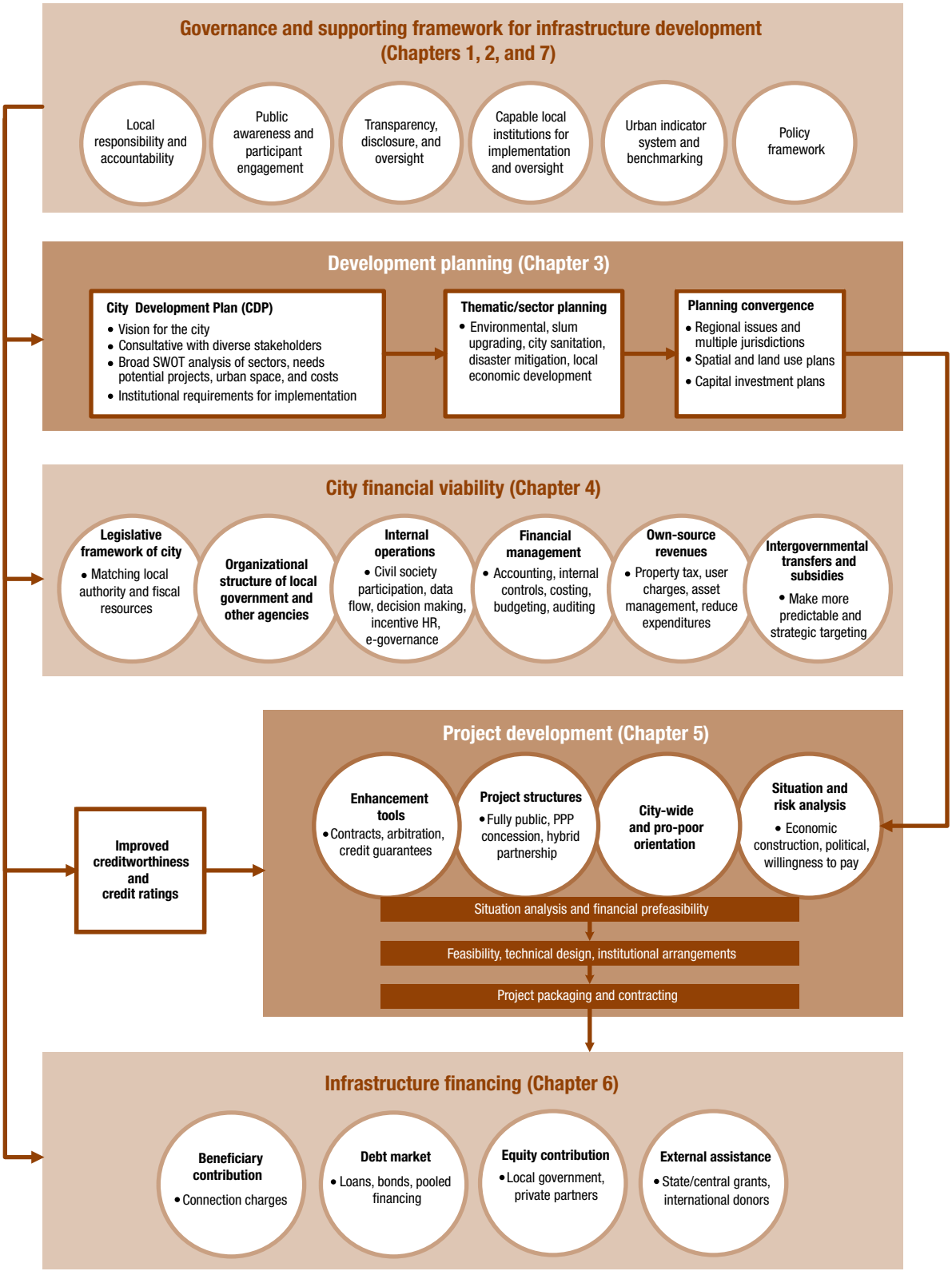
8. **Local empowerment.** The 74th Constitution Amendment Act's (1992) decentralization goal is for local self-governments (also known as urban local bodies [ULBs]) to gain the fiscal powers and functional responsibility needed to provide effective public services. Strengthening the authority of elected leaders builds public accountability for service provision and urban management at the local level, where everyday issues can be addressed more adequately.

9. **Public-private collaboration.** The roles of the private and public sectors are changing in India to encourage greater efficiencies and better services. Development activities can be allocated to the partner who is best positioned and skilled to address the specific infrastructure service challenge. Local government may directly implement a project or act as facilitator for private sector delivery. The public sector can improve development outcomes by concentrating on core public roles, such as environmental monitoring and social advocacy, and by creating the conditions that allow others to deliver services.

10. **Clear policy signals.** The central and state governments' policy framework sends signals to local governments that affect behavior and create incentives to provide quality local public services. Critical factors include providing the means for local governments to work with the private sector, having a clear division of labor among levels of government to prevent fragmentation, and structuring the fiscal framework to support local fiscal autonomy.

Figure i. The Process for Developing Sustainable and Inclusive Urban Infrastructure

City-wide investment, increased access to services, efficient management, better governed cities



A Note for Policy Making

Background

Developing Sustainable and Inclusive Urban Infrastructure Services is a guidebook for policy making and project implementation. The lessons and experience discussed in this guidebook are based on nearly two decades of experience in India and demonstrate a standardized approach that could be applied in many other countries.

While India has experienced rapid socioeconomic changes and urban growth during the last several decades, urban infrastructure has not kept pace. Urban infrastructure development has been uneven and incapable of serving all citizens. Infrastructure investment and service expansion are required to reach the goal of making Indian cities productive and healthy places to live and work. This goal can only be accomplished through a continual process of improving the planning, managing, financing, and governing of cities.

The processes described in this guidebook are important for both policy making and implementation because cities are complex, with diverse and challenging issues, compounded by dense populations. For policy makers—whose job it is to frame development objectives; create government programs; and set laws, rules, and regulations—it is necessary to consider how multiple sectors interrelate and affect one another. Special consideration has to be taken so that policy in one sector does not contradict policy in another. Overlapping policies can cause bottlenecks and can undermine development processes. Unfortunately, there are times when government policy acts as a disincentive for development. In contrast, good policy establishes incentives for improving services.

Promoting Conducive Policies

This guidebook begins with a set of guiding principles that sets the foundation on which the Indo-US Financial Institutions Reform and Expansion Program—Debt & Infrastructure (referred to as the FIRE (D) Program) has operated for the last 17 years at the local, state, and central government levels. The guidebook's principles provide the basis for good policy on municipal services that are in line with the vision of the 74th Constitution Amendment Act (1992), as well as with the Jawaharlal Nehru National Urban Renewal Mission, other Government of India programs, and global best practices.

The key municipal areas requiring policy reform have been articulated in the Model Municipal Law (2003) (see Article 1.3) prepared by the Ministry of Urban Development, with the support of the FIRE (D) Program and the Times Research Foundation. The far-ranging content in the Model Municipal Law evolved during many years of work across the country to improve local service conditions. Before the Model Municipal Law, urban policy had not been very conducive to improving infrastructure services because it discouraged private sector investment, professional urban management practices, and even expansion of the customer and fiscal bases—all of which are now considered essential aspects to developing quality services. On the surface it may not be clear how and why policy discouraged these, and other, examples. To that end, this guidebook looks at some of the problems and reasons behind them so that policy making can be more informed.

Because it is necessary to understand the interrelated issues affecting infrastructure development to create a good policy framework, the introductory article of each chapter in the second section of the guidebook highlights the challenges of specific technical areas for policy makers. This introductory article goes on to uncover the main underlying causes and shows how pilot initiatives have offered alternative policy choices.

Confronting Diverse Issues

Policies set the parameters or enabling conditions for delivering infrastructure services. They define how various government agencies, infrastructure services (development, operations, and maintenance), and civil society, including the private sector, community groups, and urban residents, all interact with one another. Ideally, the collective sum of these interactions should be effective, efficient, and sustainable services for all residents. One policy objective may seek to protect water

resources so that they are safe to use now and sustainable for future generations. Policy would need to balance environmental and public health concerns with economic development imperatives, issues that are often perceived to be at odds with one another. However, these potentially conflicting perspectives are not necessarily contradictory if policy makers have a long-term and holistic development perspective in mind. This guidebook helps align diverse and sometime competing interests through a coherent development process.

Improving Regulation

Another policy challenge is enforcement. It is very difficult, for example, to prevent encroachment on vacant or underutilized land when cities are growing rapidly and people need places to live and work. There is probably not much value in maintaining vacant land in the middle of a city unless it has a dedicated purpose and active management, like a public park, or provides a natural buffer for an environmentally sensitive area, like a river. Illegal encroachment can be confronted through policies that encourage, not discourage, development based on market demands (all population segments). It is recognized in India today that policy should encourage private sector activity to supplement government's limited capacity, and even to lead in many aspects of development. In contrast, restrictive regulations and enforcement efforts should be limited to the most sensitive areas, like safety and environmental protection.

Enhancing Good Governance

While city populations are growing, and new financial resources and innovative business opportunities have expanded, government capacity to manage urban spaces remains limited. It is limited for a variety of reasons, including fragmented institutions where management authority is spread out over many agencies at the local, state, and central levels. This causes inefficiency and, at times, confusion. The democratic institutions at the city level are still very underdeveloped: Limited accountability and transparency undermine effective governance and management. The professional capacity of staff and the organizational setup of urban local bodies (ULBs) also need updating to effectively confront the challenges that cities face today.

Collaborating with the Private Sector

Private sector collaboration can help improve government performance, particularly in fulfilling its development mandate. With an economy as vibrant as India's, many avenues for private sector participation exist. Information technology solutions can improve government efficiency and transparency, service outsourcing can enhance technical skills, and private sector financing brings many new resources to projects, to name a few examples.

Ensuring Inclusive Growth

The benefits of public-private partnerships are not limited to resources and capacity. Collaboration also generates a better understanding of the needs and demands of urban residents, many of whom are normally excluded from the formal sector. By including marginalized segments of society like slum dwellers, migrants, and lower castes into policy frameworks, cities can develop in a more comprehensive way. By providing socioeconomic opportunities to everyone, cities will be more productive places to live.

The Benefit of This Guidebook in Policy Making

The objectives highlighted above and listed in the guiding principles of this guidebook point to two of the most challenging aspects of public policy: consistency and simplicity. Policy usually has unintended consequences that can undermine its effectiveness. For example, policy that links property ownership to legal service provision was conceived to prevent illegal development. Instead, it forced people to live on more marginal land in the city (often encroached), discouraged private household investment, and forced people to pursue individualist and often illegal solutions (like illegal bore wells, which erode the water table and have relatively high costs).

This guidebook serves as a guide for policy makers by discussing how different issues—governance, planning, management, finance—interact in the process of developing sustainable and inclusive infrastructure. The guidebook offers a comprehensive and systematic approach to development. We hope that incorporating all these topics in one guidebook will help promote a common understanding of the main issues to address and the progress that has been made in the sector.

A Note for Implementing Projects

Background

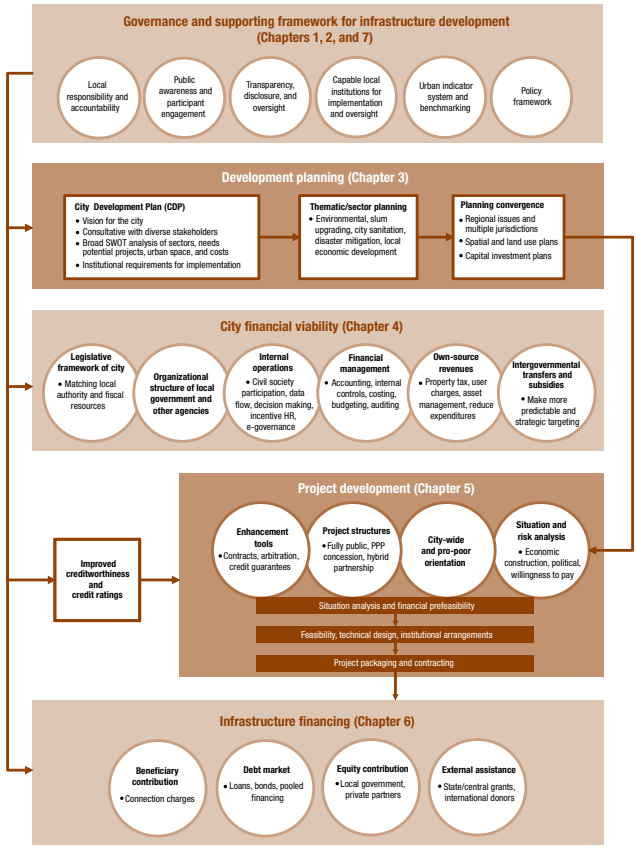
Developing Sustainable and Inclusive Urban Infrastructure Services is a guidebook for policy making and project implementation. This guidebook derives from nearly two decades of experience in India, and also demonstrates a standardized approach applicable to many other countries.

While India has experienced rapid socio-economic changes and urban growth during the last several decades, municipal infrastructure has not kept pace. Its development has been uneven and incapable of serving all citizens. Infrastructure investment and service expansion are required to make Indian cities productive and healthy places to live and work. This goal can only be accomplished through a continual process of improved planning, managing, financing, and governing of cities.

Project implementers (or practitioners) are responsible for implementing projects, managing cities, building institutional capacity, and generally translating policy into action. While policy guidance is necessary and desired to create a common framework for action, flexibility in solutions is equally crucial because of the tremendous diversity found at the local level. Rigid policies are bound to fail in a country as large and diverse as India because they will constrain practitioners who need to find practical local solutions. This is one of the reasons why the guiding principles promote local government empowerment. Practitioners dealing with local problems need the authority and resources to solve them in the way that is best for their community. In turn, local accountability and transparency, directly from citizens, will encourage more effective implementation.

Assisting Practitioners

By working in 70 cities across the country, the Indo-US Financial Institutions Reform and Expansion Program—Debt & Infrastructure (referred to as the FIRE (D) Program) has promoted many tools within each of the technical areas covered in this guidebook, including planning, management, project development, finance, and institutional development. Figure i shows how these individual elements fit together and are covered in this guidebook. For the most part, this guidebook references these tools and makes their associated documents accessible via a companion website: www.urbaninfrastructureindia.org, while focusing on the *process* for developing infrastructure services. For the practitioner, the guidebook provides both key questions that need to be answered locally and techniques for developing good projects.



Since the guidebook is organized to follow a development process, practitioners will learn when various technical skills and expertise are required. There are three parts to the guidebook: (1) the context and approach to working in this sector, (2) the key technical areas for developing infrastructure services, and (3) a way forward for institutionalizing the progress made so far.

Part 1: Context

The context for this guidebook is India's transition from a controlled economy to one that is market-based. This transition has spurred rapid economic development, which attracts people to urban areas where opportunities are greatest. India has suffered growing pains associated with this increased urbanization, including congestion, pollution, increased demand on amenities, and price increases. Government systems have not responded quickly to the changes despite reform efforts to decentralize authority.

Information about the reform efforts has been circulated to all states and cities for practitioners to utilize. Most of the reforms under the Jawaharlal Nehru National Urban Renewal Mission seek to strengthen local government. Chapter 1 includes an article on good governance and discusses some of the tools that can make local government more responsive to citizens' needs.

Part 2: Technical Areas for Development of Infrastructure Services
Part 2 of the guidebook discusses the key technical areas for developing sustainable and inclusive infrastructure from conception to initiating construction. This is a process guide and not a technical manual on engineering or specific types of infrastructure. The process is divided into four critical areas: (1) planning, (2) city viability, (3) project development, and (4) financing. Planning is about deciding what infrastructure projects are best for a given locality with respect to social, environmental, financial, and management parameters. Although these parameters are unique to a locality, they are not fixed. Practitioners have significant influence to improve the performance and viability of the city. This capacity improvement is a continual process, but ideally, to ensure maximum success, begins prior to the undertaking of a major infrastructure project. The guidebook defines that success as being sustainable (i.e., operating at high quality over the long term without environmental or financial stress) and being inclusive of all segments of the urban population.

Developing sustainable and inclusive infrastructure also depends on how the project is structured to encourage good management systems that reduce risks of failure. Suitable project development structures gain particular importance when one of the primary goals is to attract private sector investment and efficiencies. The fact that government cannot pay for or manage the scale of investment required means that alternative avenues have to be created for private sector participation. Financing of infrastructure is one such area that has received a lot of private sector interest, but one that also requires more attention to proper align policy and practice.

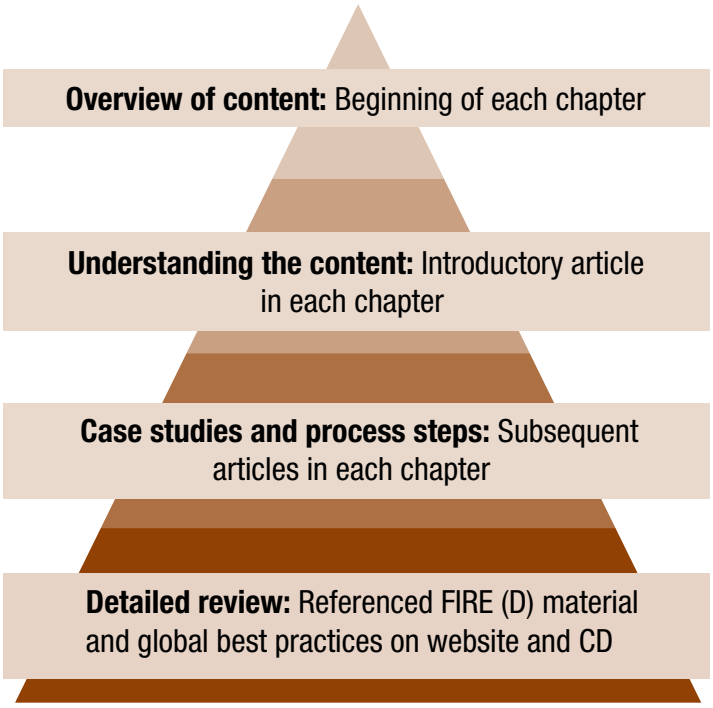
Part 3: Institutionalization
The third part of this guidebook examines how the successes to date can be further institutionalized and scaled up. Institutionalization is very much about how leaders can affect systematic change from both the policy and practitioner sides. Change can be led on a large scale by improving incentive schemes, developing training institutes, and using technology better, among other things. This part of the guidebook is forward looking and therefore highlights some of the new urban issues that need additional consideration.

The Benefit of This Guidebook in Project Implementation

This guidebook helps practitioners implement infrastructure projects by providing a process derived from numerous demonstration projects on the ground and evaluating the lessons learned from those experiences. To assist practitioners, the guidebook offers relevant tools and real-life experiences. Practitioners can use this guidebook as both a reference and guide for working on the ground. This guidebook is not meant to be a manual; however, it includes many references to more in-depth material that is available on the companion website: www.urbaninfrastructureindia.org.

The content of this guidebook is relevant to policy making and project implementation, each from different perspectives, as discussed above. The guidebook takes a broad, holistic view of infrastructure development and therefore covers several topics. The guidebook provides both detailed information and reference material. This is done by using four layers of increasing detail (see Figure ii). Beginning after the first part of the guidebook that discusses the Indian context, each chapter provides these four levels of detail.

Figure ii. Layers of Detail Within the Guidebook



Overview of Content

The top layer provides an overview of the chapter, which starts with a short abstract defining the chapter's subject. The overview then offers several key items to remember regarding the subject, to serve as a guiding framework for that technical area.

After this overview, the chapter poses several questions to policy makers and practitioners. The questions serve as springboards for discussions of the various areas that are addressed throughout the remainder of the chapter.

The final aspect of the overview is a short table of contents highlighting the articles found in the chapter.

Understanding the Content

The second layer of material is an article that introduces the chapter's technical subject and then shows how it relates to the other chapters. This introductory article walks you through the subject material by using the approach often subscribed to by the FIRE (D) Program (see Article 2.3 for detail on the approach). The chapter summarizes the *challenges in urban India* related to the chapter's subject matter. These challenges are broad and visible, such as congestion or pollution. Some of these challenges are obvious; others are less so. What is more important is to understand their causes and implications. The next section is the *technical diagnostic*, which outlines the underlying implications that policy makers and practitioners can take into account when developing solutions.

Based on diagnostic studies, the FIRE (D) Program designed pilot work at the local level to solve some of the problems facing infrastructure development in India. The third part of the introductory article summarizes these pilot activities and some of the lessons learned from those experiences. In general, the pilots were not one-off assignments, but were replicated in several cities to test their applicability more broadly and were modified as appropriate. Because these were often pioneering pieces of work, it was necessary to demonstrate results and share them to the wider urban community. In many cases, the successes led to policy reform and an effort to scale up the initiatives to the national level.

The final two sections of each chapter's introductory article reflect the experiences as whole. The *integrated solution* combines key elements from the pilot work to create a more comprehensive model for development. The integrated solution describes a process of working in the technical area covered by each chapter. This is followed by the final section called *the way forward*. The way forward discusses the prospects of scaling up the integrated solution so that it has greater impact across India.

Case Studies and Process Steps

While the introductory articles provide enough information to understand the concept being discussed, several subsequent articles offer more detailed discussions of specific topics. For the most part, the subsequent articles cover the experiences of the pilot projects. These will be particularly interesting to practitioners wanting to implement their own activities. The articles also contain important lessons for policy development. These subsequent articles include both *case studies* and short *how to do it* pieces. The case studies are descriptive articles about the process, tough decisions, and achievements of the pilot initiatives. The how to do it articles provide process steps for more straightforward topics or very specific issues.

Detailed Review

The most in-depth material are manuals, toolkits, and other documents that are important for both policy makers and practitioners. This level of detail will be useful for you and your staff, if you are responsible for either writing a particular policy or implementing a specific activity. The material is more specific in nature and too voluminous to include in the guidebook. Instead, the material is referenced in several places, including a *skills required* box in the introductory article and as footnotes in the text. The in-depth material includes work supported by the FIRE (D) Program directly, other India-specific material, and global best practices. The material will be available online at www.urbaninfrastructureindia.org and should be referred to as needed.

Word of Thanks

We sincerely hope that this guidebook supports you in the process of developing more sustainable and inclusive infrastructure services. It can be used as a reference for professionals working in urban development in India with confidence that the material is based on extensive collaboration among the Government of India, Indian professionals in the private sector and civil society, and international practitioners. The partners in the FIRE (D) Program who have contributed to this guidebook can be found in the Acknowledgments.

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