Urban development and reforms

Advisory solutions for urban problems

pwc

Our story in India

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Over 130 years in India, the oldest and one of the largest professional services firms in the country

More than 15,000 employees

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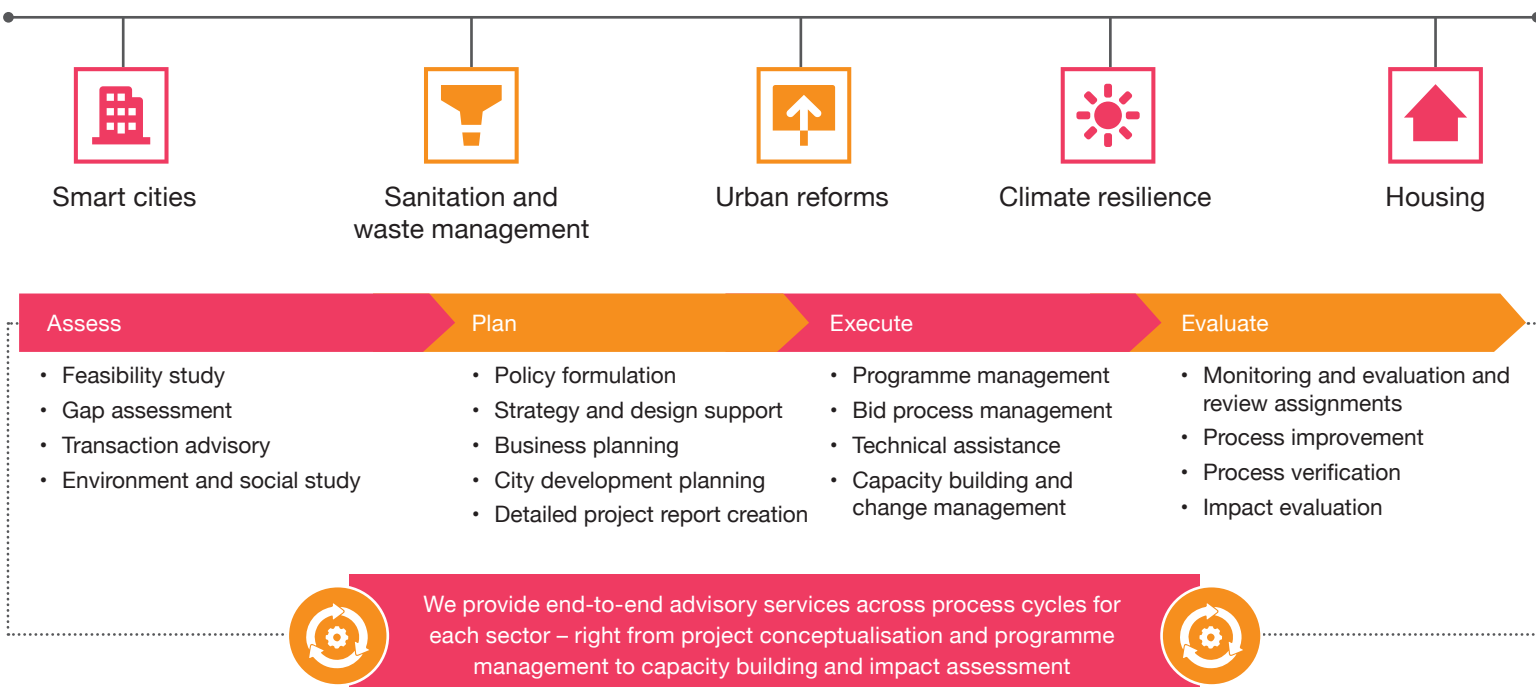
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What we do

PwC's Urban Development and Reforms team provides a holistic range of advisory services in urban infrastructure. We focus on the following five key urban domains, where our unique 'make it happen' approach and cross-functional service offerings give us an edge over our competitors.

| Smart cities | Sanitation and waste management | Urban reforms | Climate resilience | Housing |

Assess
- Feasibility study
- Gap assessment
- Transaction advisory
- Environment and social study

Plan
- Policy formulation
- Strategy and design support
- Business planning
- City development planning
- Detailed project report creation

Execute
- Programme management
- Bid process management
- Technical assistance
- Capacity building and change management

Evaluate
- Monitoring and evaluation and review assignments
- Process improvement
- Process verification
- Impact evaluation

We provide end-to-end advisory services across process cycles for each sector – right from project conceptualisation and programme management to capacity building and impact assessment

Our experience

We are known for our innovative approach and quality deliverables. Our credentials stem from our extensive collaborative efforts with government entities at the municipal, state and central levels and other public and private entities.

We factor in varying perspectives of urban reform and have produced tangible benefits and value for money for our clients in India, Bangladesh, the Maldives, Mauritius, Mongolia, Sri Lanka, the Philippines and Georgia.

Our team

We are a team of more than 60 professionals from diverse backgrounds. Our team comprises technical professionals in the fields of waste management, infrastructure planning, public-private partnership (PPP), transport, resilience, urban planning, architecture and engineering, economists and financial analysts, as well as Master of Business Administration graduates from top-tier colleges of the country.

The diversity of our group enables us to offer insights that combine perspectives from multiple fields, and provide innovative and sustainable solutions for our clients' issues.

The tools we have developed

We adopt a scientific and strategic approach to our work. Breaking problems down to their core fundamentals, we focus on building scalable and sustainable solutions by leveraging our customisable tools and scientific methodologies:
- Contingency liability toolkit for PPP projects
- City Development Plan (CDP) evaluation toolkit
- Strategic framework for integrated hill town development on PPP basis

Select case studies

Project Management Unit (PMU) for implementing the Jawaharlal Nehru National Urban Renewal Mission (JnNURM) – a first-of-its-kind large-scale urban development scheme for the Ministry of Urban Development (MoUD) in 65 cities from 2006 to 2014

Technical support for implementation of the Department for International Development (DFID)-funded Technical Assistance for Smart Cities (TASC) programme at the Ministry of Housing and Urban Affairs (MoHUA)

Technical assistance for open defecation free (ODF) achievement, strategy development and capacity building for solid and liquid waste, and faecal sludge management in Uttar Pradesh, Bihar and Jharkhand as part of the World Bank's technical assistance in India's flagship sanitation programme: Swachh Bharat Mission (SBM)

Sustainable hill town development through PPP as part of the DFID-funded Infrastructure Technical Cooperation Facility (ITCF) project – cluster development of 12 towns in multiple sectors such as water, sewerage, solid waste management (SWM), mobility and public toilets

PMU for the Pradhan Mantri Awas Yojana (Housing for All Urban Mission) for MoHUA – a first-of-its-kind large-scale housing scheme launched at the Centre

Smart cities
Smart solutions for improved urban infrastructure and services

The present scenario

Among the flagship schemes launched by the Government of India, these two schemes focus on the urban sector:

Smart Cities Mission
100 cities; US$7.1 billion
(Innovation and quality of life)

....

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
500 cities; US$7.4 billion
(Focus on water and sanitation)

Both these missions aim to strengthen urban infrastructure and facilitate development and rejuvenation of India's cities. In all the three fundamental components of a smart city – sustainable living, technological solutions, and core infrastructure – implementation is raising several challenges.

Critical challenges ahead for the Smart Cities Mission:

- Sustainability of special purpose vehicle (SPV)
- Operations and maintenance of infrastructure
- Financial reforms

- Replication of demonstration projects
- Interoperability and scalability of information and communications technology (ICT)

Our service offerings

Policy formulation and governance assessments

Feasibility studies and detailed project reports

Financing strategies and financial plans

SPV business planning and revenue augmentation

SPV organisation structuring

Institutional development and capacity building

Preparation of smart city plans

Project structuring and transaction advisory

SPV corporate governance

Project management solutions

Market assessment and investment sizing

Our notable projects

Central-level: Technical Assistance Project Management Unit (PMU) at the Ministry of Housing and Urban Affairs (MoHUA) funded by the Department for International Development (DFID)

State-level PMU for all smart cities in Gujarat

PwC as strategy consultants in smart cities – preparing the Smart City Strategy Framework				
Bhopal	Vadodara	Chandigarh	Dehradun	Ahmedabad
Tirupati	Gandhinagar	Dahod	Naya Raipur	Rajkot

PwC as Project Management Consultant (PMC) in Indian smart cities					
Surat	Bhopal	Chennai	Pune	Visakhapatnam	Warangal
Vadodara	Ujjain	Hubli-Dharwad	Raipur	Ludhiana	Rajkot
Ahmedabad	Jabalpur	Shivamogga	Naya Raipur	Gandhinagar	Dahod

Our experience

As PMU in more than 20 smart cities in India (of the 100 smart cities selected), we are providing end-to-end technical assistance and institutional strengthening support to SPVs to carry out project implementation. At the same time, it is a strategic requirement to improve the SPV capacity for mobilising resources and effectively implementing projects. Listed below are some of our key strategic engagements at the national level.

Providing technical support for implementation of DFID-funded Technical Assistance for Smart Cities (TASC) programme

The three delivery windows of TASC

Ensure MoHUA has access to cutting-edge international experience to formulate inclusive policy, regulatory and institutional framework for smart cities	Build SPV capacity through training and workshops to improve investment climate, develop smart investable projects and mobilise investment	Develop knowledge and innovation partnerships with states and institutions to incorporate best practices in Indian urban development

Research on smart cities and investment opportunities in India (client: Japan Bank for International Cooperation)

Assessment	Identification
• Roles and responsibilities of key stakeholders • Market, growth outlook and growth drivers • Modes of financing and role of private sector	• Gaps and interventions required • Aggregate opportunities for private companies • Bankable and scalable projects

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Sanitation and waste management
A clean and hygienic India

The present scenario

US$106 billion
Loss to India's GDP due to poor sanitation

1.4 million
Child deaths per year in India due to diarrhoea

2 billion
Cases of intestinal infections reported in India due to faecal contamination

Source: 'The true cost of sanitation', LIXIL Group Corporation, Water Aid and Oxford Economics; Business World; United Nations Children's Fund (UNICEF)

The Government of India accelerated efforts to achieve universal sanitation coverage through the Swachh Bharat Mission (SBM) in 2014.

SBM (Urban)

4.6 million individual household latrines (IHHLs)
61,000+ wards with door-to-door solid waste management (SWM) collection

SBM (Gramin)

IHHL coverage
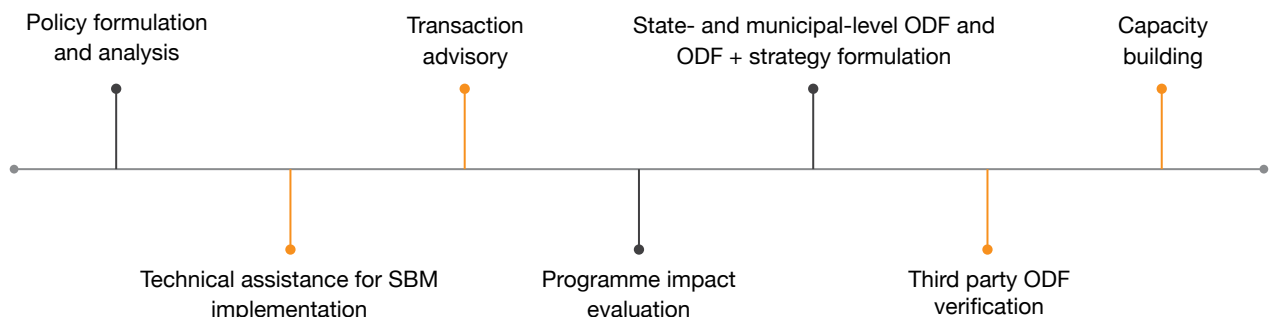38.7% → 86.25%
(2014)   (2018)

The SBM programme has had its share of challenges:

- Focusing mostly on construction of toilets and achieving open defecation free (ODF) status
- Inadequate attention to behavioural change and community awareness
- Inadequate coordination between state departments and implementing agencies
- Indequacy of continuous monitoring and evaluation (M&E)
- Limited focus on solid and liquid waste management

The programme may have been successful in eliminating open defecation, but its sustainability along with solid and liquid waste management still needs to be addressed.

- India generates more than 100,000 metric tonnes of solid waste every day.
- Rural India is also generating more solid waste due to increasing income levels and consumerism.
- India is ill-equipped to handle such levels of waste. By 2020, more than 85% of the waste will be dumped improperly or put in landfills.

Our service offerings

Policy formulation and analysis

Transaction advisory

State- and municipal-level ODF and ODF + strategy formulation

Capacity building

Technical assistance for SBM implementation

Programme impact evaluation

Third party ODF verification

Our notable projects

Capacity building and strategy development in sanitation technologies, solid and liquid waste, and faecal sludge management (SLWFSM) in three Indian states - Bihar, Jharkhand and Uttar Pradesh (funded by the World Bank)

Developing state strategies for SLWFSM	Training 150 state resources to prepare Gram Panchayat (GP)-level SLWFSM Action Plans
Developing planning guides, guidance notes and training material on SLWFSM and sanitation technologies	Handholding selected GPs to pilot SLWFSM implementation
Developing triggering tools to mobilise communities	Developing a guidance note for faecal sludge and septage management in rural areas

Integrated hill-town development for Himachal Pradesh Urban Development Department under Department for International Development (DFID)-sponsored Infrastructure Technical Cooperation Facility (ITCF)

Two clusters in Himachal Pradesh identified for integrated provision of urban services through public-private partnerships	Techno-feasibility assessments, revenue assessments, financial modelling, and field-level studies for the specified sectors
As-is assessment and gap identification for water, sewerage, waste management, storm water draining, parking and street lighting sectors	Institutional strengthening for cluster development and contract management

Technical Support Units (TSUs) in three Indian states to support the Implementation of Swachh Bharat Mission (Gramin) (SBM-G) funded by the World Bank

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Dedicated TSUs in Bihar, Jharkhand, Uttar Pradesh	Scoping study on sanitation sector financing
Developing state strategies for ODF sustainability	Need assessment study on toilet retrofitting
Planning and implementation support for ODF achievement and ODF sustainability	Monitoring frameworks and IT-enabled tools to monitor SMB-G
Planning and implementation support for state-level information education and communication (IEC) strategy for ODF sustainability	

Market assessment for municipal solid waste management (MSWM) sector in India

Market sizing of MSWM sector in select Indian cities	Competitive landscaping of major private entities in MSWM
Assessment of the competitive drivers in Indian MSWM sector with focus on policy, institutional, and technology aspects	Identifying emerging opportunities in waste management and role of private sector participation

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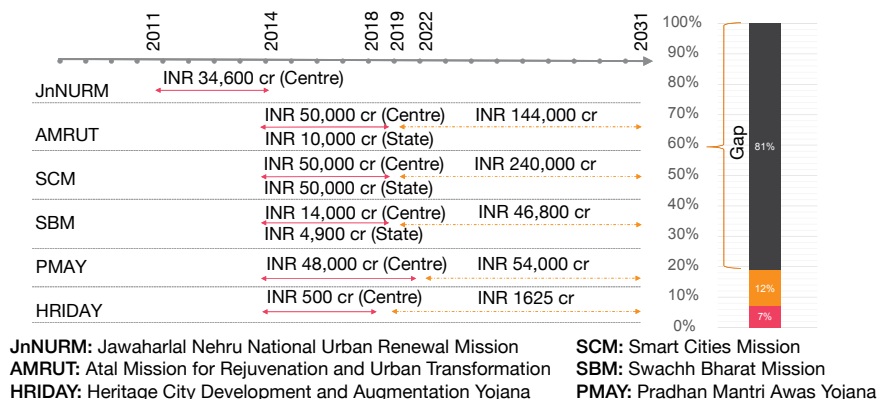Director, Public Sector and Governance
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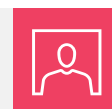
Urban reforms
Strengthening urban local bodies

The present scenario

The Indian Government has realised the importance of improving the current urban infrastructure of the country by implementing multiple schemes which offer scope for improvement. However, much remains to be done.

We estimate that another US$500 billion is still needed to provide basic service levels in Indian cities

JnNURM	INR 34,600 cr (Centre)		
AMRUT	INR 50,000 cr (Centre) INR 10,000 cr (State)	INR 144,000 cr	
SCM	INR 50,000 cr (Centre) INR 50,000 cr (State)	INR 240,000 cr	
SBM	INR 14,000 cr (Centre) INR 4,900 cr (State)	INR 46,800 cr	
PMAY	INR 48,000 cr (Centre)	INR 54,000 cr	
HRIDAY	INR 500 cr (Centre)	INR 1625 cr	

JnNURM: Jawaharlal Nehru National Urban Renewal Mission
AMRUT: Atal Mission for Rejuvenation and Urban Transformation
HRIDAY: Heritage City Development and Augmentation Yojana
SCM: Smart Cities Mission
SBM: Swachh Bharat Mission
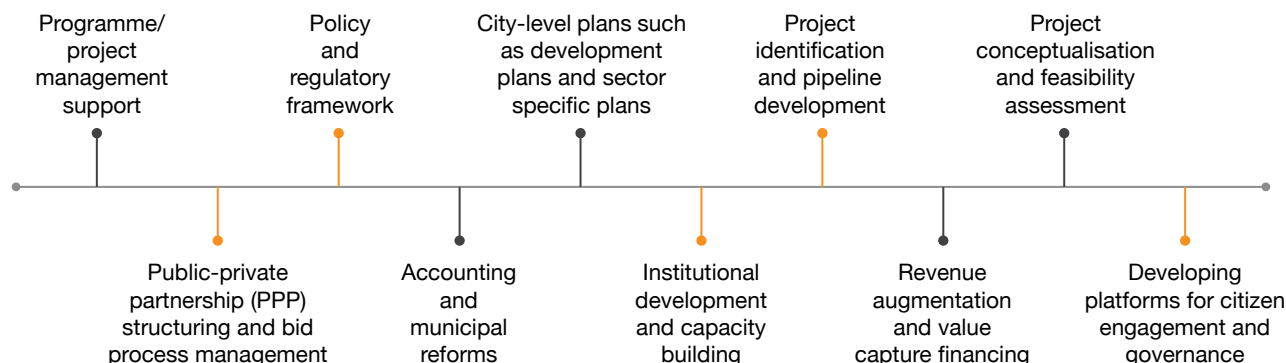**PMAY:** Pradhan Mantri Awas Yojana

Source: High-Powered Expert Committee Report on Indian Urban Infrastructure and Services (2011) and PwC analysis

Key interventions to harness the potential of urbanisation

- Integration of land use, transportation, urban resilience and economic development while planning
- Cluster-based development principles while planning
- Setting up of regulators for urban utilities and corporatisation of service delivery institutions

- Systematic approach for development of urban areas
- Making Urban Local Bodies (ULBs) self-sufficient and self-reliant
- Standardisation of financial reporting
- Uniform mechanism of revenue sharing by the state government with ULBs

Our service offerings

Programme/ project management support

Policy and regulatory framework

City-level plans such as development plans and sector specific plans

Project identification and pipeline development

Project conceptualisation and feasibility assessment

Public-private partnership (PPP) structuring and bid process management

Accounting and municipal reforms

Institutional development and capacity building

Revenue augmentation and value capture financing

Developing platforms for citizen engagement and governance

Our notable projects

Project Management Unit (PMU) for implementing Jawaharlal Nehru National Urban Renewal Mission (JnNURM) for the Ministry of Urban Development (MoUD) in 65 cites [funded by the Asian Development Bank]

A first-of-its-kind programme in the country that acknowledged the deficient urban infrastructure and intended to address urban challenges. PwC was the PMU for the programme in a two-term stretch spanning eight years.

Total outlay of INR 66,000 crore in the following sectors:

- Urban renewal
- Water supply and sanitation
- Storm water drains
- Urban transport
- Parking lots/spaces
- Development of heritage areas
- Preservation of water bodies
- Prevention of soil erosion/landslides

Highlights of the services delivered

Establishing an efficient coordination mechanism for stakeholders	Assessing capacity building and designing, and delivering training
Development of a framework for incentivising reforms and policy agenda	Identifying avenues for revenue augmentation and tax revisions

Project Management Support for design and implementation of the United Kingdom-India Infrastructure Technical Cooperation Facility (ITCF) [funded by Department for International Development]

Creating a database for Indian infrastructure for Department of Economic Affairs	Sustainable cluster hill-town development in Himachal Pradesh
Creation of a contingency liability toolkit for PPP projects	Viability gap funding scheme study

Capacity development of institutions in the urban sector in Rajasthan [under the Asian Development Bank-funded Rajasthan Urban Sector Development Program]

|	
Organisational delegation of water supply and sewerage functions to key strategic units	Devising an institutional improvement plan for all executing agencies
Support for establishing a sustainable corporatised state-level organisation for urban development	Service-level benchmarking
Establishing a policy support unit in the Local Self-Government Department (LSGD)	Developing consumer databases, and improving billing and collection efficiencies

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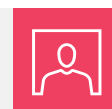
Climate resilience
Reducing disaster risks in cities

The present scenario

Exposure of Indian landmass to various natural disasters

Type of disaster	% of landmass exposed
Earthquake	60%
Drought	68%
Floods	8%
Cyclones	76% (of coastline)

Source: 'Disaster management in India', Ministry of Home Affairs, Government of India

Typical challenges faced by cities in the context of climatic catastrophes:

- Lack of adequate baseline data on losses
- Lack of data for mapping of city infrastructure
- Inability to predict extreme weather conditions
- Inadequate municipal finances to cover losses from climatic disasters
- Poor decision-making during natural disasters
- Lack of inter-departmental coordination for resilience action
- Inability to reach out to those impacted during disasters

Our service offerings

City resilience strategy

Preparation of city resilient roadmaps, climate-resilient strategies, policies, training and capacity building activities for stakeholders

Capacity building for resilience

Conducting training, capacity-building workshops, information, education and communication activities for government officials and other stakeholders

Hazard vulnerability assessments

Multi-hazard vulnerability assessments, preparation of disaster risk management plans, disaster risk modelling

Climate proofing of public infrastructure

Identification of appropriate investment areas for retrofitting infrastructure systems, technical and economic/financial analysis of climate-smart investment projects

Resilient land use and urban design

Preparation of climate-sensitive land-use plans, city blue-green master plan, green design, renewable energy elements in urban landscape and buildings

Early warning systems

Identification and provision of perspectives for hazard forecasting, installation, operations and maintenance of flood early warning systems, devising communication and dissemination strategy

Heat and health action plans

Preparation of heat and health action plans, development of IT-enabled health management information systems, public awareness, outreach strategies

Climate risk transfer mechanism

Quantifying the risks associated with climate-induced disasters, identifying relevant insurance channels and products, market analysis, business-to-government (B2G) matchmaking

Our notable projects

Roadmap for low-carbon growth and climate resilience in Kolkata

Multi-hazard vulnerability assessment	Disaster management plan
Climate smart land-use, mobility, built environment	Green livelihoods
Ward action plans	Interface plan
City business and investment plan	

Scoping study on climate risk insurance with focus on five India-United Kingdom cities

Assessment of city-level hazard vulnerability and preparedness to climatic disasters	Market assessment for climate risk insurance products
Business-to-government (B2G) matchmaking	Educating stakeholders on the importance of climate change

Strengthening climate resilience of Kolkata through improved planning and disaster risk management

Climate-resilient land-use and infrastructure planning	Flood early warning systems
Communication system for emergency response	Stakeholder capacity building

Climate change mitigation and adaptation plans for 72 Urban Local Bodies (ULBs) in Telangana

Climate risk and vulnerability profiling of ULBs	Identification of entry points for new climate-resilient practices
Strategic and actionable recommendations to strengthen urban infrastructure and services	Identification of sustainable urban infrastructure and management projects
Identification/support for institutional and capacity-strengthening measures for urban resilience	

Urban situational and stakeholder analysis for urban resilience and disaster risk reduction in Kolkata and Patna

Stakeholder mapping and analysis	Climate risk vulnerability mapping in Kolkata and Patna
Intervention areas based on situational and stakeholder analysis	Advocacy paper for dissemination

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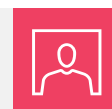Partner, Public Sector and Governance
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Housing

Enabling affordable housing

The present scenario

India's housing shortage	
Congestion	14.99 million
Obsolescence	2.27 million
Kutcha houses	0.99 million
Homeless households	0.53 million

Source: 'Report of the Technical Group on Urban Housing Shortage (Tg-12) (2012-17)', Ministry of Housing and Urban Poverty Alleviation

To address the urban housing shortage, the Government of India launched the new flagship programme 'Pradhan Mantri Awas Yojana (Urban)' on 25 June 2015, for which PwC was the Project Management Unit (PMU). The programme envisages Housing for All by 2022, when India completes 75 years of Independence.

Our service offerings

Resettlement
- Project impact study
- Compensation framework
- Resettlement assistance
- Restoration of livelihood

Project management
- Technical support
- Monitoring and reporting support
- Strategic advisory
- Capacity building
- Knowledge management

Housing finance
- Support for expanding credit institutional flow
- Financial inclusion
- Support in finance access

Transaction advisory
- Due diligence
- Financial modelling and project structuring
- Strategic assessment
- Bid process management
- Public-private partnership (PPP) development

Rental housing
- Studying economically viable rental housing models
- Optimal utilisation of assets to social rental housing
- Structuring of rental management companies for state/Urban Local Bodies (ULBs)

Feasibility studies and detailed project report (DPR)
- Market feasibility
- Technical feasibility
- Financial feasibility
- DPR preparation

Restructuring
- Diagnostic studies
- Business model preparation
- Marketing and sales strategies
- Corporate plan
- Optimal institutional structure
- Institutional capacity
- Institutional reforms

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Our notable projects

PMU for the Pradhan Mantri Awas Yojana – Housing for All (Urban) Mission

Technical support to state/cities for demand assessment, DPR preparation, technology development

Monitoring and evaluation

Preparation of guidelines, compendium research and strategy

Support to Credit Linked Subsidy Scheme in expanding institutional credit flow for housing needs

Establishment of technical cells at state and city level, and capacity building and knowledge management

Support to state/union territories in preparing Housing for All plan of actions

Outcome of our support (as on March 2018)

35
Memoranda of Association (MoAs) signed

21 lakh
Houses sanctioned

INR 68,415 crore
Central assistance

Research and advisory support to Ministry of Housing and Urban Affairs for Housing for All (Urban) Mission, funded by the Foreign and Commonwealth Office, British High Commission

Promotion of viable economic models for low-cost housing and facilitating private sector investments

Promotion of low-cost technology in affordable housing

Policy frameworks for affordable and rental housing interventions

Developing regulatory and legislative frameworks for real estate and PPPs

Technical support to PPP committee on rental housing

Support for Model Tenancy Act and Real Estate Act

Transaction advisory to Ministry of Home Affairs for development of residential accommodation on PPP mode

Supported four clusters of the Central para-military forces (Assam (I), Assam (II), Jalandhar, Kadarpur) in viability assessment and project structuring

Finalisation of technical parameters – schedules, specifications and drawings

Financial and value-for-money analysis

PPP structuring and bid process management

Policy and institutional analysis

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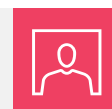Partner, Public Sector and Governance
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Public Sector and Governance practice

Our purpose is to build trust in society and solve important problems

Economics

Water

Ease of doing business

Public finance

Urban

MSME and trade

We have dedicated teams addressing important challenges in these sectors. As a firm, we believe in going beyond what is 'merely required' and ensure that we generate tangible value for our clients, delivering customised solutions through a combination of industry insights and integrated solutions.

Some of our publications in the urban domain

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 158 countries with over 250,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

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PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

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