IMPLEMENTATION OF URBAN MISSION: INCLUSIVE AND SAFE RESILIENT CITIES, SUSTAINABLE TECHNOLOGIES AND SMART INFRASTRUCTURE*

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Urbanisation today is one of the most important global trends of the 21st century. It is a transformative force that can be harnessed to enhance economic growth and productivity as well as wealth and state-building. However, today's most common urbanisation model is weak on sustainability; environmentally, socially, politically and economically.

Poor planning, the absence of effective governance and legal frameworks, fragile institutions, low capacity of local authorities to finance, operate and deliver essential infrastructure and services, as well as weak coordination mechanisms of different levels of government, among other factors, have intensified the challenges associated with urbanisation. Yet urbanisation, and particularly the city, historically has been associated with intrinsic attributes that generate economic growth. For example, cities and towns are, because of agglomeration economies, increasingly contributing to national wealth, presently accounting for 70 per cent of the world's gross domestic product, 55 per cent in low-income countries, 73 per cent in middle-income countries, and 85 per cent in high-income countries.

We need to ensure that the many opportunities of urbanisation today are used as the basis for harnessing its transformative force and activating a pattern of urban growth that is more sustainable and that could positively impact other spheres of national development.

There is more and more evidence that the three global conversations on climate change, peace and security and inequality that have been going on since the beginning of this decade, are interlinked with urbanization as an underlying and driving process inducing new forces, new powers, new actors, new challenges and opportunities.

This debate called for a review of the Habitat Agenda of 1996 and a new urban paradigm to address:
- The persistence of an unsustainable model of urbanization.
- The increase of inequality.
- The steady increase of the number of slum dwellers.
- The urban risks of climate change, and disasters.
- The negative consequences of violence and crime in cities.

In 2012, the outcome document of Rio+20 titled, 'The Future We Want', which was approved by all Member States recognized that, if cities are well planned and developed, including through integrated planning and management approaches, cities can promote economically, socially and environmentally

sustainable societies.

On 26 September 2015, the UN General Assembly unanimously adopted 17 Sustainable Development Goals which inter alia included Goal 11 for making cities and human settlements inclusive, safe, resilient and sustainable by 2030.

In October 2016, New Urban Agenda was adopted at the Habitat-III Conference in Quito for pursuing the following objectives during the next twenty years.

- Promoting a new *urbanisation* model that is universal and adaptable to different national circumstances and that is based on the key urbanisation challenges and opportunities shared by all countries.
- Promoting a new urbanisation model that contains mechanisms and procedures that respect, protect and promote *human rights*.
- Promoting *equitable* urban development and inclusive urban growth, which entails bringing equality and non-discrimination considerations, including gender equality, to the centre of urban development.
- Promoting *integration* in the implementation of a new urbanisation model to address the environmental, social and economic objectives of sustainability, which have many inter-linkages, as well as the concerns of different levels of government.
- Promoting the *empowerment of civil society*, expanding democratic participation and reinforcing collaboration.
- Promoting a model of urbanisation *which cares for common goods*-especially well connected and designed public spaces-and all supports the supply of buildable plots, well

connected and serviced, with special emphasis on affordability for all mixed-use, and which increases opportunities for decent employment.

- Promoting green cities and *environmental sustainability*, which involves establishing a critical connection between science, environment, economic growth, urban planning and governance.
- Promoting *innovations* that facilitate learning and sharing of knowledge, which entails the creation of supportive learning, science, technology and innovation policies as well as development of capacities.
- Promoting a *global data revolution* for effective, results-based, implementation and monitoring of the new urban agenda at the local, national and global levels.

Managing urbanization and planning for future urban growth continue to be among the most formidable challenges that confront the developing world. As urbanization and its multiple facets - the proportion, scale, composition and distribution over space-have progressed, so have the responses to the opportunities that urbanisation offers and the challenges it creates. India has been long concerned with urbanisation and urban population growth.

That "Urbanization" is not neutral in its impact on environment and climate change, is beginning to enter India's development strategy. The key environmental challenges that confront India are:

- To strike a balance where the benefits of urbanization (agglomeration economies) are maximized without compromising with the environmental concerns.
- To address the environmental challenge

triggered by extreme weather conditions, requiring substantial adjustments to urban planning, land use management and infrastructure strategies and norms.

- Sustainable urban mobility including making cities more walk-able through transit-oriented development.
- High concentration of energy use in cities, affecting air quality.
- A phenomenal increase in the number of vehicles-a CAGR of 9.9 per cent between 2001 and 2011- prognosis being that average level of car ownership will grow exponentially, reaching a high of 35/1000 by 2025.
- Road density equally affected by a range of factors which include quality of roads, heterogeneity of traffic, unregulated street parking, and inadequate public transport (it being a prime factor).

From a rather limited/narrow perspective of urbanization which equated urban problems with the provision of basic services, India's contemporary response to urbanization is wide ranging and is aimed at serving larger macro-economic transformational goals together with meeting local priorities. In recent years, there have been several key urban initiatives with the main objectives of making our cities and towns more livable. The Indian policies recognize the international benchmarks as laid down in the recently adopted Sustainable Development Goals (SDGs), and the Paris Agreement on climate change and affirm India's commitment to the adoption of the New Urban Agenda as adopted at the Quito Conference. My address would highlight the implications of these policies and programmes for making our cities more inclusive, resilient, safe, livable and sustainable.

These policies and programmes inter alia include: (a) Smart Cities initiative; (b) Atal Mission for Rejuvenation and Urban Transformation (AMRUT); (c) Swachh Bharat Abhiyan (Clean India Campaign) (d) Heritage City Development and Augmentation Yojana (HRIDAY) (e) Pradhan Mantri Awas Yojana-Housing for All (Urban and Gramin); (f) The Shyama Prasad Mukherji Rurban Mission (SPMRM); and (g) National Urban Transport Policy.

Information Technology Revolution-an Enabler of Smart Governance

With municipal administration becoming increasingly complex, the benefits of IT adoption are becoming more and more visible across several municipalities in India. States that have been progressively using IT industry for the economic opportunities also leveraged their potential in managing cities. Cities in Andhra Pradesh, for example, provide several basic services online including tap connection, status of garbage pick-ups, sanitation tenders, approval of building plan, etc. Most ULBs have made progress on the basic aspects of e-governance like creation of websites, uploading of information, and payment gateways for property tax, water bills, etc. However, states differ substantially in their e-readiness and approach to e-governance. In the recent years, many cities use tools like Geographic Information System (GIS) to improve urban land management and make it more transparent. Similarly, Supervisory Control and Data Acquisition (SCADA) are being used successfully for better water management in various cities. The Global Positioning System (GPS) is being used to track and monitor bus services in Surat and Indore. More recently, Greater Hyderabad Municipal Corporation has started combining the use of mobile phones with Global Packet Radio

Services (GPRS) for off-site real-time monitoring of delivering services. M-governance application has resulted in high participation as users for internet are far less than that of mobile technology. In Rajkot, only about 10 per cent of the people use internet, whereas each family owns at least one mobile phone. Therefore, combining mobile technology with Information and Communication Technology (ICT) made it easier to reach out to a large number of people.

Managing urbanization and planning for future urban growth continue to be among the most formidable challenges that confront the developing world. As urbanization and its multiple facets - the proportion, scale, composition and distribution over space - have progressed, so have the responses to the opportunities that urbanization offers and the challenges it creates. India has long been concerned with urbanization and urban population growth.

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Outlined here are the key urban initiatives, and their objectives and spatial reach. These initiatives simultaneously recognize the international benchmarks as laid down in the recently adopted Sustainable Development Goals (SDGs), and the Paris Agreement on climate change, and affirms India's commitment to the adoption of the New Urban Agenda as adopted in Quito at the HABITAT-III Conference in October 2016.

Urban Policy Frameworks: Shifting Paradigms

In the past two decades in India, there has been an explicit recognition of the role of urbanization in the country's socio-economic transformation; the fact that cities make significant contributions to economic growth, employment generation and poverty reduction has also been acknowledged. Successive five-year plans beginning with the Eighth Five-Year Plan (1992-97) bear testimony to their increasing importance. In recent years, efforts have been directed towards deepening and enhancing the role of urbanization in the development process, with a slew of wide-ranging initiatives which aim at:

- A broad-based strengthening of the municipal system;
- Eliminating the structural and systemic constraints to the functioning of cities and smaller human settlements;
- Restructure governance which is said to be a key factor in improving the quality of urbanization; and
- Reaching out to the urban poor via innovative financing and tenurial arrangements.

Strengthening the Municipal System

The 74th Constitutional Amendment in 1992, enacted in parallel with the economic reforms of 1991-92, was a landmark development that sought to strengthen the municipal system by mandating the states to:

- Constitute municipal councils in all cities and towns except those that may be specifically exempted, e.g., the industrial townships;
- Hold elections to municipal councils once every five years;
- Reserve one-third seats for women together with additional reservation for other disadvantaged groups;
- Set up, once in five years, a state finance commission to determine the fiscal base of municipalities; and

- Constitute District Planning Committees (DPCs) and Metropolitan Planning Committees (MPCs) for the purpose of preparing draft development plans.

This Constitutional amendment represents the first attempt to decentralize powers and functions of municipalities to enable them to play a larger role in the Indian economy. The provisions of the amendment have been complemented and buttressed by several other key initiatives which include: (i) amendment to the Income Tax Act, enabling municipalities to issue tax-free bonds to raise resources; (ii) laying down norms for improving property tax and user charge system; (iii) transition from a cash-based, single entry to an accrual-based, double-entry accounting system to better assess the financial health of municipalities; and (iv) establishment of state-level Property Tax Boards to bring about uniformity in property valuation and assessment procedures.

Eliminating Structural and Systemic Constraints to the Functioning of the City Economies

In 2002, the Government of India underlined the need to overcome impediments to urban growth through a set of "reforms," under the Urban Reforms Incentive Fund (URIF). These were subsequently subsumed and broadened under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005. The rationale underlying these two missions was that for cities to make meaningful contributions to India's economic growth and poverty reduction goals, it was essential to incentivize institutional reforms, leading to sustainable socio-economic growth, better service delivery, and improved governance. The JNNURM also aimed at putting in place and enabling appropriate frameworks to enhance the credit worthiness of municipalities and to integrate the urban poor with the urban service delivery system. The Mission laid down the following as its expected outcomes:

- Financially sustainable cities for improved governance and service delivery;
- Universal access to basic services in urban areas;
- Transparency and accountability in governance; and
- Adoption of transparent budgeting, accounting and financial management system.

Sustaining momentum of the Mission by continual engagement with the cities and at the same time, ensuring wider ownership has been a major challenge while operationalizing the Mission. The capacity of city-level agencies to absorb the investment support and delivery on reform has been a critical bottleneck.

Restructuring Governance for Improving Quality of Urbanisation

Several reform measures were introduced as a part of the JNNURM to restructure the urban governance framework which comprised (i) an e-governance system; (ii) enactment of a Community Participation Law; and (iii) enactment of a Public Disclosure Law.

Reaching Out to the Urban Poor via Innovative Financing and Tenurial Arrangements

Comprehensive efforts have been made as a part of JNNURM, Rajiv Awas Yojana (RAY) and National Urban Livelihoods Mission (NULM) to reach out to the urban poor and improve the condition in the slum settlements. The JNNURM focused on (i) tenurial security; (ii) earmarking of the municipal budget for urban poor settlements;

and (iii) reserving lands for economically weaker and low income households. RAY advocated slum-free cities mandating the states to give "property titles" to slum dwellers. It promoted in-situ rehabilitation of slums and provided for measures to improve the flow of institutional credit to the urban poor. The NULM aimed at providing livelihood opportunities to all sections of the society including the urban poor by addressing three inter-related dimensions of urban poverty-residential, social and occupational vulnerabilities.

Urban Initiatives 1992–2014

The 74th Constitutional Amendment Act, 1992 aimed at empowering municipalities functionally, financially and politically; the rationale and goal of Urban Reform Incentive Fund (URIF), 2002 was to eliminate systemic weaknesses so as to strengthen municipal finance; Jawaharlal Nehru National Urban Renewal Mission (JNNURM), 2005, aimed at eliminating structural and systemic weaknesses for creating investment climate and improving local governance and finance; Rajiv Awas Yojana (RAY), 2012's goal was to work towards slum-free cities via property titling and tenure security and National Urban Livelihoods Mission (NULM), 2013 was designed to reduce poverty and vulnerability of urban-poor households by enabling them to access employment opportunities. These Urban Missions have led to a significant step up in investment to the urban sector. However, urban sector continues to suffer from "low level of service delivery, structural problems, grossly inadequate availability of resources and lack of capacity at different levels of government".

Accelerated Impetus to the Urban Sector

The post-2014 period has seen some new urban initiatives. These include Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT); Pardhan Mantri Awas Yojana (PMAY); Swachh Bharat Mission (SBM) and Heritage City Development and Augmentation Yojana (HRIDAY). Thus, during these three years, the urban sector in India has received a major boost by the launch of these five new missions. Smart Cities Mission's goal is to enhance the quality of urban life and provide a clean and suitable environment through employment of smart solutions for the efficient use of available resources and the available infrastructure. AMRUT create infrastructure that has a direct link to the provision of better services to the people. Use reform to improve service delivery, mobilize resources and make municipal functioning transparent and accountable.

These new missions aim at enhancing the quality of life and providing a clean environment, creating infrastructure that has a direct link to the income and employment growth, and mainstreaming and promoting India's heritage. Pradhan Mantri Awas Yojna-Housing for All addresses, in specific, the housing requirements of the poor and slum households, and creating awareness about sanitation.

Reforms: An Integral Part of Urban Strategy

Integral to the implementation of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Housing for All in urban areas under Pradhan Mantri Awas Yojana (PMAY) is a set of accompanying reforms which points to what is necessary to take these missions and initiatives forward. Improving governance, making municipalities fiscally robust, bringing in optimality in land use and land utilization, and building capacities are the key directions for making urbanization

efficient and inclusive.

These initiatives and missions constitute a part of wider development strategies which include facilitating investment including the foreign direct investment (FDI) under the Make-in-India initiative, transforming India into a digitally empowered society and knowledge economy (Digital India), creating a framework for skill development (National Skill Development Mission), and providing basic facilities to all stakeholders in the rural areas (RURBAN Mission).

Future of Urbanization: The Next 15 Years

India is at a crucial stage in its urban transition. In 2011, it crossed the threshold of 30 per cent level of urbanization, which, observers contend, is the stage from where urban population growth begins to accelerate. According to the UN World Urbanization Prospects (2014), India's urban population will reach 583 million by 2030, adding approximately 163 million to its current urban population base of 420 million persons. By any reckoning, the expected scale of urban population growth is extraordinary. Moreover, if the United Nations figures are any indication, much of the population growth over the 2015-30 period will occur in the urban areas and with the expected interplay of new technologies, knowledge and information, cities will underpin the Indian economy in a far more decisive manner than now.

An Agenda for Transforming India

India recognizes the place of cities in the country's transformation and simultaneously notes its commitment to implementing goal 11 of the recently adopted Sustainable Development Goals (SDG, 2030)-"Make cities and human settlements inclusive, safe, resilient and sustainable"- and to actively engage in the implementation of New Urban Agenda as adopted at HABITAT-III Conference in Quito last October. An agenda for transforming urban India from its status on several indicators in the next 20 years is briefly described below:

Economic Growth and Productivity
- Fully planned and sustainable human settlements.
- High travel speed, above 30 kmph peak time.
- Well-distributed business district centres.
- Intensive use of technology/innovations.
- E-governance.
- Smart grid.
- Normative norms/self-declaration/approvals of buildings/town layouts.

Improving Quality of Life
- 100 per cent sanitation.
- Well-developed public facilities.

Inclusive Development
- Composite living representing socio-economic population dynamics-inclusive development.
- Adequate and affordable housing for urban poor and senior citizens.

Sustainability and Issues of Climate Change-Building Resilience
- 60-90 per cent population to travel by public transport.
- Dominant mode of travel does not emit pollution in immediate environment.
- Local travel, E-rickshaw, walking etc. for last mile connectivity.
- Street light LED with dimmer, low consumption, almanac micro-processor

controlled.

- Rainwater harvesting in all roads, streets and buildings.
- Barrier-free pedestrian pathways and bicycle-ways.
- Natural drainage pattern, climate change, cloud burst.
- Waste-water treatment, on-site and re-use in immediate surroundings for gardening, sprinklers for dust control etc.
- Reclaiming water bodies.
- Bringing water use to half from standard use.
- Cut down electricity consumption to 50 per cent level than normal use and 50 per cent generation from non-conventional sources.
- Waste (collection 100 per cent) to electricity.
- RCC roads, supported by pipes, integrated with future expansion plans, no digging.
- Disaster preparedness.

Improving Quality of Life

- High-security streets and buildings by CCTV.
- Crime-free society and access to social justice and gender equity.
- Full of greenery/plantation, bamboo and other suitable trees.
- Green and barrier-free buildings.

Levers of Urban Change

To transform urban India, it is planned to reinforce the urbanization process with an agenda that will comprise several levers, which would make cities work towards greater efficiency, inclusion, sustainability and safety. The key levers are:

(i) Putting in Place Integrated Urban Policies

Consistent with the principle of co-operative federalism, urban policies are being driven by considerations of efficiency, inclusion, sustainability and safety, and work towards universality of the urban agenda across different tiers of the government.

(ii) Harmonize Agglomeration Economies

Agglomeration economies hold the key to economic growth. While correlation between urbanization and per capita GSDP is high, it needs to be reinforced with focus on (a) elimination of barriers to the flow of factors of production, namely, capital, land and labour; (b) promotion of compact and cluster urban development within a regional, rural-urban framework; (c) boosting economic density and providing support to initiatives that favour synergies and innovations linked to the promotion of local economic development; and (d) creating skilled human resources for better employment opportunities.

(iii) Harnessing the Rural-urban Continuum

As India's labour force witnesses a rural to urban shift, it is of critical importance that the rural and urban areas develop in a symbiotic manner by adopting a "regional planning approach." The new initiative of RURBAN Mission is a step in this direction. The focus would be to have appropriate synergy and convergence of various schemes of different ministries for sustainable and inclusive rural-urban continuum.

(iv) Promoting Inclusive Urban Development

A mix of strategies, have been planned for promotion of inclusive urban development. These consist of (a) universalization of basic services, including education and health; (b) governability of cities focussed on social cohesion, especially among classes that stand

excluded from the development mainstream and civic engagement; (c) access to housing as a tool for alleviating poverty and as a growth escalator; and (d) putting in place a strategy for reducing "working poverty."

(v) Recognize and Actively Promote the Centrality of Sustainability in Urban Policy

Sustainable development in the urban sphere has become a necessity for the survival of societies and involves a country-wide approach to urban development-addressing issues of emission levels, atmospheric pollution, pollution of water and soil, and degradation of urban spaces. The new urban agenda focuses on cutting down of waste, savings in energy consumption particularly in buildings, and protection of green spaces. These are not merely technical problems and are proposed to be addressed with education, citizens' participation and campaigns for environmental protection.

(vi) Empowering Municipalities and Other Local-level Institutions

Strong municipal institutions are the foundation of a forward-looking urban strategy. Municipalities must be prepared to create local institutions to manage and maintain infrastructure services, implement the right process to increase productivity and deal with exclusion, and build capabilities in public services.

(vii) Strengthening Housing Finance System

There is a need for further strengthening the housing finance system in the country for accessible housing finance for the urban poor by addressing demand-side and supply-side constraints. The strategy need to include: (a) providing affordable housing for all the people by a target date; (b) ensuring better living conditions for the slum population; (c) promoting cost-effective innovative building material and technologies, and use of local resources that are environment-friendly; (d)

increasing the range of types and opportunities of housing to maintain city diversity and inclusiveness; (e) bringing vacant houses to use through fiscal incentives and regulatory changes; (f) preventing the phenomenon of homelessness via national policies linked to regional and local policies of housing rehabilitation, involving NGOs and local authorities including law and order authorities; and (g) linking housing sector with strong economic growth and job creation.

(viii) Provision and Financing of Urban Infrastructure and Basic Services

India recognizes that for cities to be safe, productive and sustainable, a concerted effort is required to provide for and finance urban infrastructure and basic services. The new urban agenda has to focus on providing infrastructure facilities, physical and social, for all. That includes ensuring sustainable access to safe drinking water, basic sanitation, drainage, solid waste management, clean domestic energy and sustainable mobility.

(ix) Making Cities Inclusive-access to Social Justice and Gender Equity

It is important to ensure social justice and gender equity in the development process by providing spaces and services conducive for the young, especially women and children.

(x) Robust Urban Information System

The urban agenda would also have to focus on developing an authentic, reliable and robust database and urban information system at city, state and national levels. The urban information system would cover, among others, the areas of urban poverty, slums, housing, basic services and urbanization related indicators.

India stands at a juncture in history where ambiguities about what urbanization can do to transform the country's economy have been overcome, and an environment exists where a bolder push to use urbanization for the

country's socio-economic development is on the horizon. Globally too, the UN Habitat has reached a consensus on a vision agenda that has committed countries to sustainable urbanization, "which is now more critical than ever as populations, social interactions, economic activities, and environmental impacts are increasingly concentrated in cities". India's new urban agenda has been articulated and envisioned in the context of the priorities that now underpin the Indian economy.

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