Ministry of Housing and Urban Affairs
Government of India

NATIONAL URBAN
POLICY FRAMEWORK
STRATEGIC INTENT

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CONTENTS

ABBREVIATIONS

BID	Business Improvement Districts
CCUP	City Comprehensive Urban Plan
CEC	City Economic Councils
DBT	Direct Benefit Transfer
FAME	Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles
FAR	Floor Area Ratio
GIS	Geographic Information System
HPEC	High Powered Empowered Committee
ICCC	Integrated Command and Control Centre
LAP	Local Area Plan
LEDP	Local Economic Development Plan
MAAS	Mobility as a Service
MoHUA	Ministry of Housing and Urban Affairs
NITI	National Institution for Transforming India
NMAM	National Municipal Accounting Manual
NMT	Non-Motorized Transport
NUP	National Urban Plan
NUPF	National Urban Policy Framework
OSR	Own Source Revenue
SDG	Sustainable Development Goals
SIUP	State Integrated Urban Plan
SLB	Service Level Benchmark
SPV	Special Purpose Vehicle
TDR	Transferable Development Rights
TPS	Town Planning Scheme
UMTA	Urban Mass Transport Authority
URDPFI Formulation	Urban and Regional Development Plan and Implementation
VCF	Value Capture Financing

Introduction

India is one among the largest urban systems in the world, with 377 million people residing in urban areas in 2011. The transition, which will see India's urban population reach a figure close to 558.8 million by 2031 (MoHFW, 2019), is not simply a demographic shift. It places cities and towns at the center of India's development trajectory. In the coming decades, the urban sector will play a critical role in the structural transformation of the Indian economy and in sustaining the high economic growth rate. Accelerated job creation emerges as a key issue in planning for India's urbanization within the larger context of its growth and development.

Rapid spatial expansion and suburbanization has resulted in addition of 91 Urban Agglomerations (UA) during the census decade 2001-2011. In fact, the mushrooming of new census towns in the vicinity of potential UAs resulted in this increment and the resultant increase in the level of urbanization. The emergence of census towns indicates sectoral transformation in the economy which is manifested in insitu-urbanization. Importantly, during 2001-2011, 2530 census towns were added as compared to only 242 statutory towns.

There are regional variations in the level of urbanization. South-west India comprising Goa, Tamil Nadu, Kerala, Maharashtra, Gujarat and Karnataka show higher levels of urbanization. Also, the Union Territories of Delhi and Chandigarh are highly urbanized. Some of the highly populous states of Uttar Pradesh and Bihar show low level of urbanization. Majority of Indian states are 20-40 percent urban. Odisha, Assam, and Himachal Pradesh are the least urbanized states in the country with less than 20 percent level of urbanization. The spatial pattern reveals regional imbalances since more urbanized and industrialized states have large urban clusters with major share of million plus cities. These states invariably attract significant share of private investments as hubs of economic activities, industries and infrastructure.

The 2011-2021 census decade is expected to see the initial impact of national economic corridors and green-field cities (i.e. industrial townships, coastal/manufacturing zones) contributing significantly towards rapid urban expansion. Also, cities are expected to support a large part of rural areas in terms of strengthening existing economic inter-dependence (covering raw material, natural resources, labor, land, logistics etc.) and leverage economies of scale to ascertain that the outcomes are inclusive. The NUPF integrates these facts and targets enhancing the economic opportunities through a set of interventions at all levels (city, state and national) which could drive India towards a five trillion dollar economy. The interventions are as follows:

- Creating plans and sustainable physical infrastructure to support enhancing 'economic base' of urban areas
- Boosting local economy through set-of enablers (finance, infrastructure, policy, regulation, institutional support and governance) to provide necessary social infrastructure including housing, informal sector livelihood, common services platforms for networking etc.
- Promoting mass public transport systems, non-polluting modes, promoting pedestrian safety and cycling (to achieve safer and healthy cities)
- Enhancing the finances of urban local bodies, devolving powers to lead, set-outcome based targets and leverage financial resources independently
- Create real-time urban information hub at local level, integrated with the regional, state and national level database for informed decision making
- Establish systems and technology to ensure environment sustainability to minimize negative impact and improve urban resilience (including readiness for manage pandemic)

India's response to urbanization recognizes the international benchmarks as laid out in the Sustainable Development Goals (SDGs) 2030, the Paris Agreement on Climate Change and the

New Urban Agenda (NUA). Given the growing importance of the urban sector, India has stimulated the growth of this sector by launching six missions: Atal Mission for Rejuvenation and Urban Transformation (AMRUT); Pradhan Mantri Awas Yojana (PMAY) - Housing for All (Urban); Smart Cities Mission (SCM); Swatch Bharat Mission (SBM); Heritage City Development and Augmentation Yojana (HRIDAY) and Deen Dayal Antodaya Yojana – National Urban Livelihoods Mission (DAY – NULM) along with schemes and programs to improve urban mobility. The missions are aimed at improving the quality of life in urban areas. Integrated within the missions (AMRUT and PMAY) is a set of accompanying reforms, which aim to improve urban services, make city functioning more transparent and functionaries more accountable.

This National Urban Policy Framework (NUPF) outlines an integrated and coherent approach towards the future of urban planning in India. The NUPF is not an attempt to provide a detailed, top-down guidebook for how to build and manage Indian cities. It recognizes that most urban issues are under the jurisdiction of States or Urban Local Bodies and that solutions must be customized to the local context. One of the starting principles of NUPF 2020 is that the imposition of a standardized, tightly codified prescription is not desirable.

A set of ten *sutras* (philosophies) and their corresponding functional areas have been developed into a list of priorities, actions and outcomes later in this document. This strategic intent is in the form of a guidance for States to follow while formulating their urban policies.

Challenge and Opportunity

During 2000s, India witnessed a 'demographic dividend' indicating a rise in the percentage share of working age population. A high percentage share of youth and working population in urban India could be an asset in the process of nation building if proper education, skill training and decent employment opportunities are made available to all. Also, with the improvement in life expectancy, the share of elderly population is rising which demands better health support system. Notably, the pandemic has highlighted the importance of health infrastructure in ensuring better resilience against such natural disasters in future.

Indian cities suffer from inefficiencies of service delivery and face severe stress on infrastructure. As per Census 2011, tap water as main source of drinking water was available to only 70 percent of the urban households. Only 33 percent of them had access to a piped sewer system while 38 percent used septic tanks. By 2030, India's water demand is projected to be twice the available supply unplugging severe water scarcity and a possible 6 percent loss in GDP (NITI, 2018). Close to 20 percent of urban households live in informal settlements. As against the need of 2,60,000 buses for public transport, only one-sixth (46,000 buses) are available. As per estimates there is need for an infusion of US $1.2 trillion in urban infrastructure in India by 2030.

The 74th amendment has brought about decentralization in letter, but not in spirit. There is increasing dependency on grants (from 44 percent in 2007-08 to 51 percent in 2017-18 of ULB's revenue share), due to limited fiscal and financial autonomy of ULBs. Weak institutional and financial capacities of ULBs and other parastatals agencies is affecting service delivery. Only about 1% of the Urban Local Bodies (ULBs) have investment grade credit rating of A- and above (MoHUA, 2017). This is further exacerbated by inadequate expertise to undertake the complex planning, financing and implementation tasks involved in urban management. Inefficiency and the dependence trap feed into each other forming a vicious cycle. Outdated procedures of urban planning and near absence of frameworks for regional economic growth has led to creation of urban sprawls and conflicts between urban and rural habitations.

To ensure sustainable and equitable growth of the country, there is a need to shift from business as usual to a long-term, integrated approach towards economic growth and sustainable urbanization. Already the third largest economy in the world in purchasing parity terms, India was expected to grow at over 7 percent per annum, with aspirations for a possible 8 percent per annum in the future years before the pandemic struck. . The GoI is **promoting cooperative and competitive federalism**, marked by a significant devolution of revenues and responsibilities to the states while fostering friendly competition and collaboration among states to drive better performance and country's overall development. The implementation of the Goods and Service Taxes (GST) is an example of both India's federal model at work and the country's commitment to reforms.

Rationale

The MoHUA recognizes that India's growth story is unfolding in its cities and post COVID-19 urban India shall have to increasingly contribute towards realizing Hon'ble Prime Minister's three-fold vision for:
1. *Atmanirbhar* Bharat (Self Reliant India)
2. Vocal for local
3. USD5 trillion economy by 2025

These are closely related targets complementing each other. Atmanirbhar Bharat demands reduced dependence on imports by manufacturing such products locally together with inculcating a citizen led movement towards using locally produced products. In our journey towards USD5 Trillion Economy, the Service sector shall have to contribute USD3 trillion followed by USD1 trillion each by Manufacturing and Agriculture. Both Atmanirbhar Bharat and vocal for local shall become enablers for the vision of USD5 Trillion economy. Urban areas that are manufacturing hubs, regional growth centres, transport hubs or ports, tourism destinations, capital cities, economic zones or evolved as a financial, education, IT hub and more, are going to lead this change. Atmanirbhar Bharat shall also include enhancing our capacity, creativity, and skills.Therefore, to become a manufacturing economy, we need to shift our focus from 'Make in India' to 'Make for world' by importing raw material and exporting value-added products. The progress towards an Atmanirbhar Bharat is already visible in the World Bank's 'Ease of Doing Business' ranking where India has leapfrogged from rank 142 (2014) to 63 (2019). The set of reforms i.e. enforcing contracts; starting a business; registering property and paying taxes, closely relates to urban reforms and will enable India to improve its global ranking.

Vision Statement

Keeping the national priorities and critical role of urban India , the NUPF envisions *'urban areas with distinct identity providing ease of living, responsive governance, sustainable environment, rapid economic growth and livelihood opportunities for citizens'*.

Strategic Intent

As we move towards an Atmanirbhar Bharat a paradigm shift will be needed in the way urban programs are funded – a fundamental shift away from the current project-based funding to an **outcome-based system** that measures results, so that public expenditure can be focused towards achievement of citizens' benefits rather than mere completion of projects. Outcome-based funding provides flexibility in implementation, thus making the goal of achieving citizens' aspirations the singular focus of all efforts. The true winner is the citizen - the man who lives in the slum, the woman who needs safe public transport, the child who is readying to join the knowledge economy of tomorrow, amongst a host of other beneficiaries. It is for them that we need to alter the course we have followed for so long. This would enable emergence of a vocal citizenry at the local level.

As local governments start focusing on the achievement of outcomes, a performance-oriented mindset will get deeply ingrained into the culture of these organizations, leading to a virtuous cycle of constantly improving capacity. This is probably the only way in which local governance capacity can be systemically developed.

Core Principles

States and ULBs can achieve this by adopting the 'core principles of Outcome-based Funding[1]:

- **Integrated: One City – One Program – One Fund**
  All funding will flow from a single window under a single mode of operation. Cities will no longer have to face a multiplicity of GoI programs, each demanding that the city follow its own maze of cumbersome procedures. Instead, city administrations will be able to use their scarce capacity and time to address the problems at hand. This would encourage them to think of long-term, integrated and systemic solutions rather than resorting to quick fix measures to comply with a top down mandate.

- **People-centric: Citizens First-Project Next**
  The proposed approach puts citizens first rather than projects. Its central purpose is to give primacy to the needs of citizens and allow their voices to be heard about what outcomes matter most to them. These outcomes could, for instance, include safer and more predictable water supply (instead of just more pipelines), improved sanitation (instead of just more toilets), easier mobility (instead of just more buses or flyovers) and more learning (instead of just more schools) and so on. As time progresses, citizens' aspirations would evolve, and new outcomes could be prioritized.

- **Collaborative: Promotes Partnership between Centre-State-Local Governments**
  Since the spirit of partnership underpins this approach, it emphasizes collaboration between the centre, state and local governments, allowing the needs and aspirations of citizens to come to the fore. It does not try to overturn existing institutional arrangements. Instead, it encourages all tiers of government to work together towards a common goal, setting the stage for a more collaborative future. Even so, the most important alignment may well be the one that aligns the use of public funds with citizens' aspirations.

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[1]*MoHUA to share a detailed conceptual framework on 'outcome-based funding' for ULBs and States together with toolkit for preparation of CCUP and SIUP*

- **Inclusive: Open to all States and Cities**
  Unlike earlier programs, all states and cities will be able to participate. Smaller and weaker states and cities with low capacities would counterintuitively be at an advantage as they could receive higher incentives. Similarly, if considered fit by all, faster growing states and cities may also be given higher incentives in recognition of the fact that they face greater challenges.

- **Demand Driven: States and Cities Decide the Outcomes they want to achieve**
  In true democratic tradition, the key principles of the program would be defined through a process of engagement between the centre, states and cities. Most decisions would lie within the domain of states and cities, most importantly the choice of their specific priorities.

- **Based on End Results: Promotes 'Function' Over 'Form'**
  The program proposes a direct focus on 'function' as opposed to a dominant focus on 'form'. To exemplify, mobility is a function, UMTA is a form; water is a function, Jal Nigam is a form; education is a function, school is a form. It is the performance of the function where the program's focus will lie. There would be complete neutrality to the form that states, and cities choose to achieve that function.

- **Equitable: Uses Objective Formulae to Determine Funding**
  Each state would have an allocation - the maximum funds it is entitled to draw down, subject to the achievement of its chosen outcomes. A pre-determined formula would form the basis of a state's allocation. This could include a judicious mix of a state's urban population and its annual rate of population growth, per capita income of the state or any other formula that emerges from the engagement between the centre and states.

- **Encourages Commercial Financing: Raise More, Gain More**
  Since GoI will not be able to fund all the investments needed by an urbanizing country, promoting self-financed urban growth becomes important. To incentivize such self-financing, GoI can provide additional incentives to states and cities that access commercial financing, based on the 'raise more, gain more' principle. For cities with limited financial capacity, GoI can consider intervening in the credit market to reduce the cost of funds or help improve their access to credit by interest subventions

and partial credit guarantees, in much the same way as the Finance Commission supports states which have high tax effort but low capacity. Whichever approach is considered, states and cities would be incentivized to find solutions that best suit their budget, while also being given appropriate incentives to enlarge their pie.

- **Objective: Promotes Independent Performance Evaluation**
  Independent monitoring and evaluation of performance would form the bedrock of the program. Ensuring the independence, integrity and efficiency of the evaluation process would be critical as this would instil confidence that the process has been impartial and that the outcomes claimed have indeed been achieved. Independent monitoring would also increase the rigor in reporting systems.

- **Data Driven: Supports Evidence-based Decision Making**
  Since the accurate measurement of outcomes is essential to the process, the approach will promote data-driven governance. At present, even a basic parameter such as the number of households in a city is not verifiable. The endeavour will, therefore, be to design, deliver and manage a comprehensive state-of-the-art data ecosystem that will allow for the seamless flow of data between all tiers of government. The MoHUA has already initiated the DataSmart cities program to develop a data culture. When built upon, this will lead to greater efficiency, more robust data driven decision-making and more accurate measurement of performance.

- **Transparent: Public Disclosure and Citizen Engagement**
  The new paradigm would embrace transparency as a core principle. Since the basic premise of this approach is citizen satisfaction, all claims of performance would be publicly disclosed for citizen evaluation and feedback at all times during the program's operation.

- **Fosters Innovation: Do More with Less**
  The magnitude, complexity and diversity of urban challenges makes it immensely important to foster innovation to deliver community-centric, cost-effective and sustainable solutions. So far, however, supply-driven engineering solutions have been the norm, resulting in the inefficient use of scarce resources. Business cannot continue as usual. This approach will therefore encourage innovations that enable cities to achieve more with less.

- **Builds Capacity: Promotes Learning by Doing**

  The lack of capacity has long been a key stumbling block for urban development. This approach recognizes the challenge, and believes that all learning takes place by doing, not by being told what to do. As cities begin to implement their own solutions and gather community feedback, local knowledge and local solutions will come to the fore, generating a continuous cycle of learning. In due course of time, city administrations would gain both the confidence and the capacity to deliver on citizens' expectations and be held accountable to them for results.

- **Reorients GoI's Role: Shifts from Driver to Facilitator**

  The GoI would need to reimagine its role in the NUPF. Once the new paradigm comes into effect, GoI will have a largely catalytic role to play in the urban sector. The main drivers would be states and cities. The GoI would support capacity building of state and city administrations - especially of the smaller ULBs - by creating enabling mechanisms. It would also need to realign policy, promote decentralization and create mechanisms to help cities become financially sound and to be able to borrow commercially. The GoI would need to anchor work in the fields of data driven governance and open innovation.

Implementation of 'Strategic Intent' by States and Cities

The strategic intent shall be achieved through a mix of 'top-down' and 'bottom-up' approach aligned to GoI's promoting cooperative and competitive federalism. Ten functional areas have been identified in the Strategic Intent. Each city will prepare a City Comprehensive Urban Plan (CCUP) containing the key actions listed in the ten functional areas under the 'city' category. These would be aggregated at the State level; additionally, the State will add key areas listed under the 'State' category. These two would form the State Integrated Urban Plan (SIUP). These would be posed to the MoHUA for funding.

For the first time, urban sector planning and funding shall be aligned to each other in a way that 'outcomes' for the people become central criteria to support States and Cities. The strategic intent shall unify *Capacity, Finance and Governance* to deliver high quality outcomes and achievement of NUPF rationales.

City: Preparing the City Comprehensive Urban Plan (CCUP), as a strategic 'outcome based' document

addressing thrust areas and local priorities with an objective of overall 'more economically vibrant and productive' cities. The CCUP shall bring out the Local Economic Development (LED) strategy with a purpose to strengthen its economic base, improve its economic future and quality of life for all. The economic focus shall directly contribute to the NUPF rationale's of improving job base, Atmanirbhar Bharat and achievement of USD5 trillion Indian economy.

State: Next level is for the States to integrate CCUPs and prepare a State Integrated Urban Plan (SIUP) enabling integration of programs and funding. The fundamental task for States shall be to facilitate cities in realizing their real economic potential by integrating CCUPs, assessing 'outcome based' framework, identifying key interventions required by State Government to support CCUPs (e.g. enabling frameworks i.e. policy, legislative, regulatory, financial, institutional, safeguards), align and prepare State level 'outcome based' in the form of SIUP.

GoI: MoHUA shall align and converge its resources in the National Urban Plan (NUP) based on the SIUP and support State and ULBs on 'outcome-based' funding framework. GoI shall be re-orienting and limit its role to facilitator. The main drivers would be states and cities. The GoI would support capacity building of state and city administrations - especially of the smaller ULBs - by creating suitable learning mechanisms.

Functional Areas

The NUPF recognizes the diversity of challenges in urban India and therefore the framework follows a 'loose fit, light touch' approach, based on ten sutras (principles) which are applied to various functional areas. The framework is divided into ten sections, each addressing a different functional area as listed below:

1. Urban Planning
2. Urban Economy
3. Physical Infrastructure
4. Social Infrastructure
5. Housing and Affordability
6. Transportation and Mobility
7. Urban Finance
8. Urban Governance
9. Urbanization and Information System
10. Environmental Sustainability

Each section begins with a brief overview of the major challenges in the area and is followed by a rationale for policy-making, list of policy actions and outcomes for the stakeholders i.e. city, State and Government of India. The actions are illustrative in nature. All states/cities are free

to prioritize add and drop actions as long as they align to overall Strategic Intent.

Urban Planning

The early Master Plans aimed to be too detailed and even after years of planning and preparation exercises, zonal plans were often not completed. The resulting growth of Indian cities, with their unplanned urbanization, congestion and environmental degradation, is something that has consequently taken planners by surprise. Specifically, urban planning practiced in this way has led to problems such as rigid and unadaptable nature of plans, unconnected to investment planning thus remained unimplemented and failing to be truly comprehensive due to the missing link between the spatial and functional aspects. On a regional and national scale, this lack of integration of spatial planning and economic planning has increased the skewed hierarchy of settlements originally created by colonialism, and as a result, benefits of economic planning and development schemes have not been fully realized.

Rationale

The primary objective of urban planning in the framework is to equip Indian cities to meet the needs and demands of a rapidly growing population. Secondly, urban planning needs to embrace people-centered development that understands the diverse needs of all residents, particularly the poor, differently abled and the disadvantaged. Thirdly, master planning has to be flexible to address the rapidly changing socio-economic conditions in cities and their surroundings. Additionally, spatial and economic planning shall be integrated at the regional level in order to create a more balanced network of cities in the region. This will ensure that maximum economic outcomes accrue from urbanization.

Summary of Actions

Level	Key Actions
City level	- Prepare Master Plans (integrating spatial and economic focus) - Revisit Master Plans in every five years (based on consultative review) - Reserve developed land for EWS/ LIG - Prepare LAP and TPS (using smart IT tools) - Extend planning area boundaries to include peri-urban areas - Master Plan to have a 2-year strategic, action-oriented plan linked to budget - Plan preparation to be participatory subsuming diverse stakeholder views - Use variable FAR/ TDR as density management & resource mobilization tools
State level	- Prepare State Urban Policy Framework (SUPF) aligned to NUPF - SUPF to guide cities with NCU/ NUPF recommendations/ frameworks - Issue new guidelines based on principles of convergence (remove schemes or departmental silos) including for preparing LAPs and TPS - Provide framework for public/ stakeholder participation (also ensuring Plan Execution to flow from ward level consultations) - Timely approval of Master Plan of cities - Empower ULBs to prepare, own, operate and deliver service
Central level	- Provide indicative structure/ guidelines for master plan - Provide framework for differential FAR/ TDR zones/ density management and resource mobilization tools - Coordinate with GoI agencies (e.g. SEBI for TDR) to enable legal framework - Guidelines on model Form-Based codes - Framework for inclusion of peri-urban areas/ census towns - Incorporate changes to the URDPFI (TCPO), as necessary

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Revisit Master Plan (prepare 2-year Strategic Plan with economic focus)	Revise Master Plan (GIS based integrating spatial and economic strategy)	Self-reliant and empowered ULBs
State level	Establish SUPF and guidelines on LAPs and TAPs	Implement convergence agenda with LAPs and TPS	Dynamic, iterative, adaptive, gender-responsive and evolving plans
Central level	Guidelines on Master Plan for economic focus	Framework for resource mobilization tools	Transition to long-term flexible Master Plans

Urban Economy

The hierarchy of settlements in India is highly skewed with a few very large cities and a large number of villages. This derives from existing colonial patterns of settlements which have endured due to the lack of mechanisms designed for the integration of spatial (regional, urban/rural) with sectoral investment plans in the Five-Year Plans. Additionally, rather than seeing urban development as a cumulative effect of a number of economic development programs with impacts on settlement patterns, planning has instead, been understood as an independent program operating in silos. This narrow view is unable to maximize the economic benefits associated with increasing urbanization.

The clustering of people and enterprises leads to higher levels of productivity and employment generation, which can be beneficial for harnessing the effects of agglomeration economies. However, congestion can also operate against agglomeration economies. This occurs when infrastructure and basic services are unable to keep pace with demands of increasing population and enterprises, thus, preventing full exploitation of agglomeration economies. Congestion effects are currently preventing realization of full economic potential of urbanization in India.

Rationale

Cities have a two-way beneficial connection with their hinterlands. Firstly, a network is formed when several cities and villages are tied together in a mutually beneficial manner, with a balanced network consisting of both large cities and different size towns and villages. The role of spatial planning in this context is to coordinate and converge various plans operating at different levels; local, regional, state and national. Therefore, State Governments are primarily required to pursue actions towards the integration of spatial and economic factors of development at these different scales, which in turn, would lead to a balanced hierarchy of settlements that maximizes the spatial spread and investments. Secondly, states should also plan the provision of basic infrastructure and services that enables pro-poor livelihood, e.g. vending zones for the street vendors.

Summary of Actions

Level	Key Actions
City level	- Provide social protection to informal workers (policy and programme) - Promote Business Improvement Districts (BIDs) - Establish City Economic Councils/ CECs (in larger cities) - City dashboards capturing city-level investments, GDP, jobs/ growth database - Prepare Local Economic Development Plan (LEDP)
State level	- Identify cities with economic growth potential - Strategy on integrating the informal sector - Allocating adequate resources for skilling and local economic development - Facilitating convergence of resources (programme and funding)
Central level	- Framework for balanced network of settlements (rural-urban continuum) - Guidelines on identifying cities with economic growth potential (BIDs and CECs)

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Assess economic worth and prepare LEDP	City dashboards on growth database & LEDP	Inclusive, functional BIDs and CECs
State level	Facilitate cities in executing LEDP	Skilling-reskilling and resource allocation	Leveraging human capital in cities
Central level	Necessary frameworks & guidelines for *Atmanirbhar* Bharat	Support states/ cities in achievement of LEDP	Contributing to achievement of *Atmanirbhar* Bharat

Physical Infrastructure

The HPEC (2011) has found that water utilities on an average are able to recover only about 30-35 percent of the cost of operations and maintenance (O&M). There are three management models in place for looking after water services (including management of sewerage services): (1) system management by department or parastatals of the State government, (2) activity management by Urban Local Bodies, and (3) sector management by exclusive water supply and sewerage boards set up for the city. However, the gap between the revenues and costs of water supply often prevents the municipal bodies from making any substantial investments on improving or even maintaining the standards resulting in quality deterioration.

Urban areas in India are served by inadequate sewerage systems with a high percentage of the urban poor dependent on public toilets. There have been improvement in sanitation through the SBM which has led to provision of water supply and sewerage outlets in toilets. Nonetheless, the following issues remain to be addressed: Firstly, as large parts of cities are not covered by sewerage disposal systems/decentralized fecal sludge management, waste commonly finds its way into storm water drains, natural water courses and ultimately into major rivers. This problem gets aggravated in the case of rivers near major cities. Secondly, the sewage carried by the underground system has to ultimately allow to run off into natural drains following proper treatment. In most of the cities however, the capacity treatment plants are much lower than the amount of sewage flows needing treatment. Solid waste management is another area which needs attention. Neither the households nor ULBs of most Indian cities practice segregation of waste., The collection of the garbage is irregular, processing is not done in most cases, and Municipal Solid Waste Rules that were put in

place in 2000 are not being enforced. As per the study of MoHUA (2010), SWM accounts for 25-50 percent of a ULB's expenditure but cities recover less than 50 per cent of the O&M cost. A high share of expenditure is on collection and transportation, and little attention is paid to processing and scientific disposal of the waste.

Rationale

A list of outcomes and indicators relevant to the needs of citizens will be collaboratively developed. The final list of outcomes that emerges should thus be locally relevant, meet a broad range of citizen expectations and have the concurrence of all tiers of government.

The list can, for instance, include: sanitation, piped water supply, waste management, public transport, affordable housing, and the rejuvenation of natural ecosystems, transparent and improved governance, better air quality, or any other area of concern to urban residents. Since both states and cities will need to play a role in achieving these outcomes - in most sectors, cities are responsible for physical outputs while states are responsible for legal and policy measures - the clear articulation of outcomes will help align their efforts.

Next, to ensure that improvements are objectively measured, a set of indicators would need to be defined for each outcome. These indicators should be measurable and verifiable in a simple and easily quantifiable manner; in other words, they should be SMART - Specific, Measurable, Attainable, Relevant and Time-bound.

In a significant departure from the past, these indicators would need to measure both quantity as well as quality. In water supply, for instance, instead of just measuring the number of new connections added, the indicator would also need to measure the regularity of water supply and the quality of water that finally reaches the user. For urban mobility, instead of just focusing on the number of buses provided, the indicator would also need to focus on the quality of bus services and the volume of passengers using these buses. Thus, in effect, these indicators would measure end results rather than intermediate outputs or reforms such as improved financial management, planning etc.

The recent pandemic has brought to focus the importance of individual tap connections, covered drains, sewerage system and access to individual toilets. The shortage of these amenities is high in the slums and low income neighborhoods. The City Comprehensive Urban Plan must make adequate provisions for the same.

Summary of Actions

Level	Key Actions
City level	- Prepare City Comprehensive Urban Plan (CCUP): which includes all the functional areas 'Outcome based funding' plans for CCUP - Leverage GoI and State funding as per VCF/ other innovative frameworks - Stronger institutional structure of SPVs, performance-based contracts - Natural ecosystems should be leveraged as infrastructure systems for resilience - Use integrated digital technologies further build on ICCC resources
State level	- Prepare SIUP: Strategic plan for physical infrastructure improvement - Provide viability gap funding for projects under CCUP and SIUP - Adopt SLBs (at least meeting GoI norms) consultatively
Central level	- Provide guidelines for preparation of CCUP, SIUP and prepare NUP - Professional institute to guide ULBs in managing critical services - Define SLBs and 'outcome-based funding' support - Provide funding framework based on appraisal of outcomes based on SIUPs

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Prepare CCUP (pipeline of projects)	Fructifying projects (development and management)	
State level	Prepare SIUP (assess and approved project pipeline)	Support outcome-based funding	Universal coverage
Central level	Fund outcome-based CCUP and SIUP & prepare NUP	Monitoring of projects (independent agency)	

Social Infrastructure

Post COVID-19, solutions to some of the concerns and challenges raised above need to be integrated with Healthy City (HC) concept developed by WHO. *'A Healthy City is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential'* (Goldstein and Kickbusch, 1996). Achieving healthy cities basically means building on each city's own resources and on the skills and managerial capacities of its people and formal and informal institutions.

As per the Report of the Committee on Slum Statistics/Census (Sen. 2008[2]), slum population in the country was estimated at 75 million in 2001. The 2011 Census reported a slight decline to 65.49 million. Lack of basic services is one of the most frequently mentioned characteristics in all definitions of slums. Lack of access to improved sanitation facilities and improved water sources is the most important feature, sometimes supplemented by absence of waste collection systems, electricity supply, surfaced roads and footpaths, street lighting and rainwater drainage Hence, the issue of urban poverty is linked both to physical as well social infrastructure.

As outlined in the chapter on economic development, investment in human capital is also a key ingredient for economic development of any country. Investment in human capital can play a significant role in reducing poverty and enabling people to lead a healthy and productive life. Large-scale disparity exists in the volume and level of educational attainment especially in primary to higher secondary education among different sections of urban areas. The access to quality school education is not available uniformly to all sections of urban society especially migrant population, street children and urban poor. Gender based educational inequality is also a major challenge for urban India. The dropout cases are higher among girls than boys although learning outcomes of girls are better than boys. Numerous agencies work towards the provision of education. Nonetheless, in recent years, municipal and government schools have been losing out to private schools.

Health has emerged as one of the key areas of concern for all levels of government, especially with the outbreak of the pandemic. Health and well-being are also the unfinished agendas of Sustainable Development Goals. These are also acknowledged as ensuring notable returns of investment in a country when achieved. Investment in the health and well-being of citizens not only enriches individual potential but also contributes to the overall development of the

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[2]*Sen, Pronab. 2008. Committee constituted by the Ministry of Housing and Urban Poverty Alleviation to look into various aspects of Slum/Census and issues regarding the conduct of Slum Census 2011. New Delhi: Ministry of Housing and Urban Poverty Alleviation, Government of India*

country. Therefore, proper co-ordination between different stakeholders, viz, various ministries, central, state and local governments and other parastatals as well as convergence of various government programmes (Missions) is needed to address the emerging health challenges. An enhanced budgetary allocation is needed along with strengthening of capacities of ULBs so that all citizens are covered by social and health protection, especially the urban poor and migrant workers.

Rationale

First, provide employment in close geographical proximity to all; second, education that focuses on learning outcomes and developing life skills, third, convergence of different health schemes and agencies under the urban local bodies, fourth, upgrading municipal and government school infrastructure with digitally empowered learning outcomes, with a focus on the poor and the disadvantaged, and caring for the migrants, women, children, widows, elderly and differently-abled. Fifth, promote *'Indianness'* by maintaining monuments, heritage buildings and cultural artifacts, developing public and cultural spaces, promoting Indian cuisines and soft power (e.g. *rahadari*). These will also attract residents to public spaces, as opposed to malls, and encourage social interactions. This should take place alongside ensuring the provision of other amenities and social services, such as health and education, which should not only be available but also easily accessible to all residents, including the poor.

Summary of Actions

Level	Key Actions
City level	▪ Full implementation of Direct Benefit Transfer (DBT) ▪ Explore partnerships (civil society and private sector for better 'outcomes') ▪ Address social infrastructure with adequate focus on health (nutrition) and education as integrated urban development in CCUP ▪ Promote 'Indianness', cultural, monumental heritage ▪ Focus on 'moving out of poverty' as outcome
State level	▪ Full implementation of DBT ▪ Convergence of schemes and benefits with 'outcome based' focus ▪ Social infrastructure as integrated urban development in SIUP
Central level	▪ Framework for convergence of scheme and benefits on 'outcome focus' ▪ Digitally empower State and ULBs (facilitate full implementation of DBT) ▪ Social infrastructure: health and education as integrated urban development in NUP

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Outcome based and citizen centric inclusive city	Full DBT implementation	Moving out of poverty & vulnerabilities
State level	Facilitate convergence of schemes	Digital empowerment of every stakeholder	
Central level	Provide guidelines for convergence (for all social sector services)	Universal access to social services to all beneficiaries	

Housing & Affordability

In pursuance of Government's vision of facilitating housing to all by 2022, the Ministry of Housing and Urban Poverty Alleviation launched Pradhan Mantri Awas Yojana (Urban) - PMAY (U) in 2015. PMAY (U) addresses urban housing shortage by ensuring a *pucca* house to all eligible urban households by the year 2022.

Property rights are much more than a "title", particularly titles for individual households. In the unique environment of India, appropriate regimes of property rights have to be evaluated against three criteria: (a) terms of exchange, i.e. rights to buy and sell; (b) effective protection from forced eviction - secure tenure; and (c) effective protection from market-induced displacement.

Promotion of rental housing had attracted less attention until the pandemic crisis struck which witnessed millions of migrant workers returning to their native places. Official data is somewhat divergent on rental housing - while the Census states that about 27.5 per cent of urban households lived in rented houses in 2011, the NSS found that close to 32.9 per cent of urban households lived on rent in 2018. Apart from the uncertainty surrounding the numbers, the data tells us that between a quarter and a third of households in Indian cities live in rented housing and the rental housing market is almost exclusively a private market of small-scale providers. Moreover, studies have shown that providing rental housing can be cheaper for the government than subsidizing ownership. Importantly, rental housing is directly connected with livelihoods, education and opportunity, even more so than ownership housing, according to some. Households may choose to own a home away from the city for investment and future use but will only rent where they are close to work and education. However, public policy has rarely encouraged rental housing in the private market.

An Affordable Rental Housing Complexes (ARHCs)

for urban migrants and poor as a sub-scheme under Pradhan Mantri Awas Yojana (Urban) was announced in May, 2020 which seeks to fulfil the vision of 'AtmaNirbhar Bharat'. ARHCs will create a new ecosystem in urban areas making housing available at affordable rent close to places of work and will cut down unnecessary travel, congestion and pollution.

Rationale

Nearly 95% of housing shortage occurs for households in the EWS and LIG sections. Keeping in view the median household income and EMI required to service housing loans, first, subsidy or Government support is required for construction of affordable houses, particularly the EWS. Second, land is required in order to provide houses to all. Third, zonal and building regulations have to be contextualized. When houses are small, the outdoor space becomes significant. In the case of work-based settlements, the outdoor space becomes even more critical as it is where the house extends to become a work place. Fourth, a clear distinction between houses for self-dwelling, and subsequent/speculative houses for other specific purposes (rental, investment etc.) should be made in the urban polices. Fifth, rental housing should be encouraged by giving vouchers (one type of cash transfer). The MoHUA should prepare model guidelines for voucher linked rental housing. Sixth, there should be preference for promoting self-built housing. The reason is that self-built houses are already located on land where key factors determining home locations - affordability, livelihood, work opportunities and mobility - are already met. Income-poor urban residents make housing choices largely on location of work, not the quality of housing unit. Generally, self-built housing is located on land that is without legal security of tenure. Therefore, security of tenure should be given to already existing self-built housing. Seventh, accelerating the provision of housing for all, which also includes temporary lodging facilities of night shelters or raynbaseras, women hostels, crèches, old-age homes and rehabilitation centers at public places with adequate disaster mitigation strategies.

Summary of Actions

Level	Key Actions
City level	- Allocate 'developed land for EWS' both in Master Plan and CCUP - Implement strategies to prevent slums as per SIUP - In-situ development with partnerships/ coalitions for urban change - Development of Rental Housing - Implement 'land title' registration and 'beneficiary involvement' - Convergence with other missions on 'outcome basis' e.g. NULM

Level	Key Actions
State level	▪ Develop strategies to prevent slums under SIUP ▪ Focus 'in-situ' and integrated systems ▪ Provide appropriate framework on 'land titling' for property rights ▪ Prepare State Strategy for Rental Housing ▪ Adopt GoI enabling framework for private sector participation (VGF, low cost housing technology)
Central level	▪ National housing stock must be created (as PMAY guidelines) ▪ Universal coverage of beneficiaries under EWS housing ▪ Framework for 'rental housing' (prepared in 2020) ▪ Prepare enabling framework for private sector involvement

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Allocate 'developed land' for EWS	Development of Rental Housing and HFA	Increasing affordable Housing for all
State level	Legislative and regulatory frameworks as enabling framework	Preparing State Strategy for Rental Housing	
Central level	Policy framework and promoting housing finance	Creation of National Housing Stock	

Transportation & Mobility

A major driver of urban India's increased traffic congestion has been lack of policy-based reforms that gives greater primacy to private vehicles, such as expanding roadway capacity at the cost of public vehicles, which incentivizes purchase of private vehicles adding to congestion. It is thus necessary to focus on moving people rather than vehicles, by encouraging walking, cycling and the use of public transport. The Government of India had acknowledged the importance of this principle in its National Urban Transport Policy (NUTP) of 2017. The NUTP and AMRUT as well as Smart Cities Mission which aimed to fund urban infrastructure (including transport) and essential services, together represent significant policy steps towards advancing equitable urban mobility, smart mobility and reducing congestion.

At present, there are several issues that exacerbate the problem of excess motorization. These challenges represent opportunities to improve equitable urban transport in India by providing reliable, affordable, inclusive, accessible and integrated public transport as well as safe non-motorized transport facilities ensuring last mile connectivity. There are issues such as different modes of public transport operate in silos and fragments, rather than as part of an integrated network; lack of focused investment in road-based (e.g. bus) public transport leading to inadequate, low quality bus fleets and services and decreasing ridership; lack of designated space for road based public reduces its appeal to commuters who can afford other modes of transport, since they use the same space as private vehicles resulting in slower commute; lack of facilities and street infrastructure for non-motorized transport (e.g. walking, cycling) and active travel which either make it inconvenient or unsafe for pedestrians and cyclists; and lack of a comprehensive parking policy, leading to significant road space being taken away by street-parked private vehicles. Furthermore, the differently-abled face lot of challenges in accessing public transport. Also, women face significant safety challenges on public transport. This in turn restricts their access to employment, education and services.

Rationale

First, seamless connectivity (e.g. feeder services) is required to be connected to the last-mile of public transport. Second, the MoHUA should prepare guidelines for pedestrians to promote the street to function both as a channel for mobility and access, and as a common public space, especially where street markets exist. Third, public transport has to be expanded and made inclusive. It has to be accessible to all parts of society especially the vulnerable groups and the differently-abled ensuring their last mile connectivity in order to create equity amongst citizens. Indian cities have to be caring cities by encouraging 'availability of accessible and affordable transportation for older persons/ women/differently abled people. This section of people face enormous difficulties in moving from one place to another, even within the city limits, because of transportation- and security-related issues. Fourth, master plans have to encourage a more dispersed but functional and closely knit pattern of urban settlements at the regional level, replace traditional concepts of home-work-place relationships with transit-oriented development, have a clustered pattern of both mono- and multi- functional settlements

around a central core-city, linked by fast movement corridors, enabling de-concentration and decentralization of population and use state-of-art transport technologies for inter-city and intra-city mass transportation systems. The MoHUA should prepare guidelines for States to integrate transport and mobility plans along with master plans learning from good practices of developed nations. Fifth, parking policies should allow for facilities for electric vehicle (EV) charging. Differential parking policies may be adopted to charge higher for personal vehicles and lower for public service/ shared vehicles to discourage private vehicles especially in congested areas. Sixth, the triad - electric vehicles, self-driven vehicles and platform services - are likely to influence transport and mobility in hitherto unimagined ways. These will be based on a concept-cum-guidance note prepared by MoHUA showing the way forward for State Governments and cities. Seventh, need to regulate and streamline app based public transport system.

Summary of Actions

Level	Key Actions
City level	▪ Facilitate 'mobility as shared services' or MAAS model ▪ CCUP to have comprehensive mobility plan and address street furniture ▪ Implement design standards ▪ Adopt 'outcome' based guidelines with 'user convenience' at core ▪ Establish UMTA ▪ Implement real-time technology integrated with ICCC (open source data) ▪ Implement green mobility plan with an aim to become carbon neutral ▪ Ensure last mile connectivity of public transport ▪ Encourage cycling and walking by constructing dedicated paths
State level	▪ Enable mobility 'as shared services' model ▪ Integrate 'mobility as a service' in SIUP and facilitate UMTA ▪ Provide seamless convergence with other state schemes ▪ Funding incentives for adopting greener technology
Central level	▪ Framework for mobility 'as shared services' model ▪ Provide 'streets' design standards (updated UDRPFI) ▪ UMTA to integrate multi-modal plan and streamline institutions 'SPV' ▪ Provide guidelines based on 'outcomes' for different stakeholders

Outcomes

	Short-term	Mid-term	Long-term
ULB level	Form UMTA, focus on user convenience/ NMT in CCUP	Adopt 'MAAS', public access to real time data	Transition to affordable and accessible green mobility
State level	Facilitate UMTA, guidelines on MAAS	Facilitate convergence to green mobility + integrated LU and TP	
Central level	Guidelines on MAAS and revisions in URDPFI	Strengthened institutional set-up	

Urban Finance

The HPEC (2011) found that some states have partially devolved funds, while others have not devolved at all. The expected benefits to local bodies have not been realized.

The borrowing powers of local governments are limited and they have to seek the approval of the State Government for any borrowing. Municipal bonds are one type of borrowing with great potential to raise money from the capital market. Municipal bodies, especially in larger cities have taken recourse to raising resources by floating municipal bonds. The Bangalore Municipal Corporation was the first municipal body to raise funds by issuing bonds in the early 1990s backed by a state government guarantee. Later in 2002, the Ahmedabad Municipal Corporation floated municipal bonds, which were not backed by any state guarantee. Since small and medium local governments were unable to access capital markets directly on the strength of their own balance sheets, and the cost of transactions was also a barrier, pooled financing mechanisms were started. Pooling mechanism enable capital investments to be pooled under one borrowing umbrella in order to reap the benefits of economies of scale. Only Tamil Nadu and Karnataka have issued municipal bonds by pooling municipalities. The total amount of capital raised in the municipal debt market is Rs. 1224 crores (MoHUA). In July 2015, SEBI notified a new regulatory framework for issuing municipal bonds in India. The excessive reliance on the private sector and funding through municipal bonds needs to be revisited as it is neither sustainable nor transparent.

Municipal bodies often have a wide range of assets on their balance sheets ranging from infrastructure networks to public buildings, from housing to municipal shopping centers as well as land. Asset management involves deciding what to do with these assets. These can be leased out. The issue is how to determine the true economic cost. Another way is to sell the assets in order to generate resources upfront for infrastructure creation. A necessary requirement for leveraging land for revenue generation is proper upkeep of land records. Presently, the system of keeping of land and property records does not ensure a clear title. There is no convergence between the registration process, the property taxation system and the record of rights maintained by the revenue department of the State Government.

Apart from the traditional modes of revenue generation, there are many innovative sources of resource generation to increase the resources of municipal bodies such as public-private partnership and value capture finance (VCF). Value capture is based on the principle that private land and buildings benefit from public investments in infrastructure and policy decisions of Governments (e.g. change of land use). As the additional value is generated by actions other than landowner's direct investment, value capture is distinct from the user charges or fees that agencies collect for providing services. Value capture finance is a more efficient form of resource generation as compared to direct sale of lands to raise funds. Conversion charges, betterment charges, impact fees, and development charges are the most frequently used VCF tools in India. Recently, MoHUA has designed a VCF framework to be followed by the States and cities.

Rationale

First, revenues of urban local bodies have to increase year-on-year in order to cover increasing costs of operation and maintenance of municipal facilities and capital works. Smaller urban local bodies should be able to recover at least a part of their revenue expenditure (which is a sum of operation and maintenance costs as well as costs of establishment & salaries) from their own revenue receipts while larger bodies should recover full revenue expenditure. Second, all urban local bodies should spend some part of their total expenditure for asset creation and capital expenditure. Third, encourage cities to leverage their assets to generate more revenue sources and other sources of finance. Fourth, enhance ULBs revenue generation capacities through improvement of property tax and user charge collections, implement credit enhancement plans, adopted innovative financing methods such as value capture and issuance of municipal bonds. Fourth, make the property tax based on Annual Rental Value (ARV) buoyant. One way is to shift to a Unit Area Method. The long-term solution lies in making property tax based on 'capital value'. This will ensure that the property tax reflects the current market value and hence is buoyant. Fifth, urban local bodies should increasingly move over to financing 'lumpy' capital expenditure using municipal bonds and the MoHUA could incentivize this. Appropriate VCF tools can be deployed to capture a part of the increment in value of land and buildings. In turn, these can be used to repay debt raised through bonds. Sixth, value capture tools should be aligned to the strategic/ master plans. By developing infrastructure, the quality of life will improve making the city an engine of regional growth. Municipal bonds have several other benefits for municipal efficiency. Funds mobilized through municipal bonds are used for economically viable projects. Successful implementation of projects based on municipal bonds requires strong financial and administrative capabilities in the municipalities. Municipalities will have to follow economic pricing for their services so that their actual costs are recovered from the citizens. Investment grade credit rating, modern accounting mechanisms (e.g. accrual accounting), identification of viable projects, levy of appropriate user charges and transparency in the decision-making process are necessary pre-conditions for a successful bond issue. Seventh, lack of coordination between central and state budgets need to be addressed, as it makes structuring allocations for urban development difficult. Eight, parking, etc. need to be accounted for at the ULB level and brought under the ambit of user fees. This should get stipulated within the bye-laws and rationalized. The idea of differential user charges based on neighborhood (higher for business district or high-income neighborhoods/ suburbs) or end use (small household, big household, farmhouse, commercial unit) could be implemented.

Summary of Actions

Level	Key Actions
City level	▪ Implement 'outcome based' budgeting ▪ Strengthen own source revenue (OSR), taxes and full cost recovery ▪ Implement property tax reforms (full billing and recovery) ▪ Municipal database including property tax to be IT/ GIS based ▪ Strengthen non-tax revenue: User charges and fees (VCF) ▪ Integrate municipal revenue enhancement plans
State level	▪ Adopt 'outcome based' budgeting ▪ To set norms for cities to meet their revenue expenditure from OSR ▪ SFCs to align with CFC and bring focus on 'outcome based' funding ▪ Policy on investment support and PPP (guidelines/ law)
Central level	▪ FC allocation criteria to focus on 'outcomes based' do-more-get-more ▪ Framework for OSR, VCF, property tax & non-tax revenue rationalization plan ▪ Provide framework to internalize 'climate finance' e.g. carbon credits ▪ Framework for Integrated Financial System (web integrated NMAM) ▪ Establish dedicated 'National Institute of Urban Finance and Policy'

Outcomes

	Short-term	Mid-term	Terminal Outcomes
ULB level	Adopt 'outcome based' budget, rationalize income	Revenue enhancement (OSR =>50 percent)	Financial sustainability and efficient service delivery
State level	Provide framework for 'outcome based' budgeting	Prepare/ revise investment policies/ law	
Central level	Frameworks for revenue enhancement measures	Guidelines on climate finance	

Urban Governance

Urban development in India is a state subject. It was only in 1993 that the 73rd and 74th Amendments of the Constitution came into effect and were aimed to bring about a fundamental shift in the nature of governance. Article 243P (e) recognizes a municipality as an institution of self-government and Article 243W proposes that the Legislature of a State may, by law, endow "the Municipalities with such powers and authority as may be necessary to enable them to function as institutions of self-government and such law may contain provisions for the devolution of powers and responsibilities upon Municipalities." Following this, the NUPF acknowledges that state governments have the principal constitutional responsibility for urban development and has thus, attempted to offer considerable assistance to states for preparing their own urban state policies.

Thus, the state governments have the principal constitutional responsibility for urban development. Since then municipalities have been created and elections are, by large, being held. The Constitutional Amendment has recommended' that state governments assign them a set of 18 functions under the Twelfth Schedule. However, as the Administrative Reforms Commission (2008) noted, this has not led to real decentralization of power to the municipalities. The Amendment is even less clear on the devolution of finances leaving it to the discretion of stat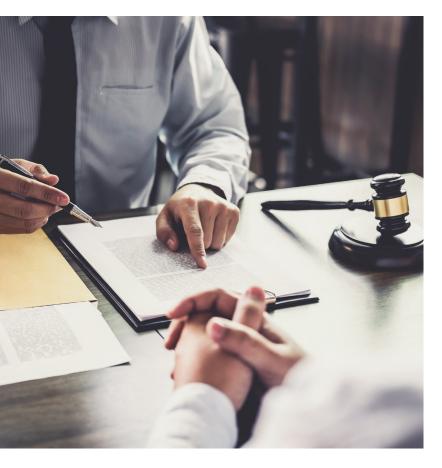e legislatures. State governments have only partially complied with devolution, and this has typically not been accompanied by the devolution of funds and functionaries.

Most of the ULBs are understaffed (technical and general), the existing staff has limited skills in handling projects, and there is frequent transfer of officers in the absence of dedicated municipal cadre. There is absence of suitable institutional framework for supporting continuous capacity building efforts, which is not based on demand but routine ad-hoc trainings. The platforms and systems for people's participation are not functional. This has resulted in inadequate collection of disaggregated data that can inform policy discourse and commensurate resource allocation. Many ULBs have still not been able to utilize the advantages of capacity building using digital means to improve the quality and cost effectiveness of public services, and to collect and manage data in ways that make it possible to provide information in an integrated manner at the local level for decision-making.

Rationale

First, fragmentation and multiplicity of agencies at the city level must be addressed together with empowering and extending the tenure of the Mayor. Mayors to be able to address promotion of economic activities and poverty alleviation leading to the growth of the city. Second, appropriate governance arrangements must be decided and settled by State Governments at the

regional, city, ward and area sabha levels. Third, there is a need for comprehensive mapping/ legal analysis of existing laws, policies and programmes and suggest inclusive policies. Fourth, in order to meet the skill gap between existing manpower, government employees need to be trained in line with developments in technology. Periodic skill and capacity building should be carried out for local elected representatives and city officials. Every city government should mandatorily have bye-laws/corporation procedure rules/house rules according to which the functions of corporation are to be carried out. Also, the vacant posts need to be filled. Fourth, responsibility of planning, managing and resource raising, and allocation should be transferred to the municipalities. Fiscal transfers from the centre and state should be done in a systemic formula-based manner to incentivize city level economic activities. Additional transfer of funds should be based on mandatory reforms to be implemented by the State and city governments. The Goods and Services Tax (GST) should have a share of Local GST transferred directly to the city governments. The final approval of municipal budget should be with the city government.

City Government should have specialised municipal cadre. Fifth, full decentralization should be done, and capacities of local institutions must be built, especially regarding areas like health, registration of migrant workers and ensuring their entitlements (like PDS, health, education etc.), or climate risk mitigation, given unforeseen situations like the current pandemic. Decentralization should be based on the principle of subsidiarity[3]. The principle of subsidiarity stipulates that functions shall be carried out closest to citizens at the smallest unit of governance possible and delegated upwards only when the local unit cannot perform the task. The citizen delegates those functions they cannot perform, to the community, functions that the community cannot discharge are passed on to local governments in the lowest tiers, from lower tiers to larger tiers, from local government to the State Governments, and from the States to the Union. This is recognition of human capital possessed by citizens and micro governance units, such as ward committees, Area Sabhas, neighbourhood associations and RWAs (not mandated under the 74th CAA). Data enumeration to be done at zone/ward level annually - Urban Schemes should be implemented and monitored at zonal/ward level (representing lowest administrative block). Seventh, largely, accountability of public institutions has focused completely on prevention of activities not specifically authorized by law or rules and integrity of the public system or maintenance of financial propriety, which in practice means adherence to financial rules. Attention should be paid to other dimensions of accountability – responsiveness towards felt needs of people, performance of municipalities in terms of efficiency, effectiveness and transparency.

One way is to act on the recommendation of the National Commission on Urbanization, which had found that although local body elections were being held there was no power of recall of councilors and no real accountability of councilors to the electorate till the next elections. The involvement of citizens in decision-making was almost zero and their interaction with civic officials was largely restricted to pushing their individual cases or meeting officials to resolve their individual problems. The priority should be to view citizens as partners and give them direct citizen control through ward committees and Area Sabha's or directly using digital technology. Extending e-governance to facilitate citizens' suggestions and grievances redressal mechanism will ensure citizen participation.

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[3]*Also recommended by the II Administrative Reforms Commission (2008)*

Summary of Actions

Level	Key Actions
City level	- Undertake full charge as per Seventy-Fourth CAA - Create Municipal cadre - Strengthen contract management to manage SLAs with parastatals etc. - Prepare 'citizen charter' and compensate citizens for non-compliance - Set performance benchmark for funds, functions and functionaries (3Fs) - Conduct continuous capacity building at all levels - Implement concept of 'community development corporations' CDCs
State level	- Streamline provision of property and land title registrations - Facilitate capacity of ULBs and devolve powers to ULBs - Facilitate ULBs in adoption of 'smart' institutional set-up - Facilitate ULBs in adoption of 'model municipal law' - Establish dedicated State Institute of Urban Affairs
Central level	- Provide options for 'smart' institutional framework for ULBs - Review and revise Model Municipal Law 2013 to reflect new changes - Establish 'National Urban Innovation Hub' as an independent agency - Establish 'National Urban Projects Management Agency' to build project development, operations and contract management capacities

Outcomes

	Short-term	Mid-term	Terminal Outcomes
ULB level	Unifying all 18 municipal functions at ULB level	Strengthened contract management (SLAs), strengthen Human Resources (HR)	
State level	- Devolve powers to ULBs - Establish principle of subsidiarity	- Establish principle of subsidiarity - Adopt: - HR (legislative framework) - Regulatory frameworks - SLA/ benchmarks - Training & Capacity Building	Streamlined funds, functions functionaries (directly facilitating Atmanirbhar Bharat)
Central level	Guidelines on SLA and contract management	- Establish principle of subsidiarity - Establish 'Municipal Cadre' for ULBs - Capacity grid mechanism (National/ Regional/ State Learning Hub) - Establish 'National Monitoring Mechanism' - Suggest smart Governance framework	

Urban Information Systems

Cities consist of multiple and overlapping systems: the transport system, water and sewerage system, electrical system, and parking system. However, urban planning projects too often treat each of these systems in silos, without considering the interconnections between people, systems and technology. Conventionally, cities have been using information technology and communication in three ways: (1) The use of a single application to address urgent problems, and the subsequent addition of more applications as per the needs and priorities of the city. (2) The building of infrastructure and the later addition of accompanying services. (3) Experiments with a number of applications without having a long-term or definitive vision in place. A well-developed digital infrastructure in contrast, allows cities to access, share, collate and use the information contained in the sum of interactions among people, place and system. The ability to capture, classify and analyse information from different systems and use this to plan for city operations as a united "system of systems" brings unexpected and broad ranging benefits[4].

Such an approach will however, require more sophisticated systems of city governance and management. These will extensively use automation including Artificial Intelligence, the Internet of Things (IoT), big data analytics, etc. The creation of diverse platforms and the collection and publishing of city data will provide the

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[3]*This is also called city view and its power has been recognized by the European Union, which is offering funding for cities in Europe to develop comprehensive urban planning tools.*

opportunity to transform city life by allowing cities and their citizens to create, monitor, and measure progress of their cities in a more informed way. Access to urban data could lead to more informed and empowered citizens as well as help governments in making more informed decisions. Collation and analysis of open data will enable identification of focus areas of intervention. The city needs to have a holistic database on physical and social infrastructure covering the entire city area and all segments and age groups of population including migrants. Health and education are key areas where data at a granular level are needed. Disaggregated data on municipal income and expenditure are also important for evidence based policy formulation at the local level.

The emergence of cloud-based services, more powerful mobile devices, sensors, artificial intelligence, big data and analytics and open-data sharing present a huge opportunity for cities to enter a new phase of technological development and also enable new ways to deliver services to citizens. Intelligent sensor networks will soon become increasingly critical to the basic functioning of cities. In the near future, we expect to see smart cities and buildings that are net producers of renewable energy, connected and optimized transport systems and a range of e-services such as e-health, e-education, e-commerce, e-governance and teleworking. This is expected to result in major changes across society, inevitably leading to sustainable urbanization.

Some of the major digital-related urban planning challenges are lack of empirical data at town/ state/ national levels, lack of updated accurate base maps, lack of map data of underground infrastructure, outdated techniques of ground survey, use of citizens applications in silos, inadequate sharing of data/information among city line departments in a coordinated manner, lack of standard operating environment in a critical/emergency situation, inadequate technical skills required to manage digital infrastructure, absence of real-time monitoring of critical city infrastructure, etc.

Rationale

First, integrated application of digital technologies related to infrastructure and services and GIS based information should be used to improve municipal services. The improvement could happen in several ways, such as municipal operations being performed at a lesser cost or use fewer resources, making municipal activities more accountable and transparent, improving delivery of citizen services and performance of infrastructure. Second, cities should build a centralized single source of Information of all citizen centric services/functions/operation by consolidation of city infrastructure /assets into a single operations platform for delivery of services, monitoring of environmental parameters as well as handle exigencies in disasters (e.g. COVID 19). The infrastructure so created should be scalable (both horizontally and vertically) to accommodate growing needs of the services and interoperable units (field devices, sensors etc.). Third, a large amount of data is generated by the use of city infrastructure and citizen services and it carries vital city information and provides deep insight to the way city operates. This should be used extensively for planning, re-design, and proactive preparation for future growth as well as for handling any emergency/ disaster situation. A possibility of monetization of the inter-connected data generated in the city should also be explored for long-term financial sustenance of city operation. Fourth, State Governments should experiment the use leapfrog technology to vault over stages prescribed by the conventional development approach.

Summary of Actions

Level	Key Actions
City level	- Integrated Command and Control Centre (ICCC) for spatial data infrastructure/ IoT - Urban Planning and Management (citizen services and building high resolution base maps using LIDAR, DEM or advance tools) - ICT/ ITS based real-time data on urban mobility and passenger information - ICT (SCADA, GPS) for energy and utility management linked to unified ICCC - ICT applications for urban safety and security unified with ICCC - Create database on employment, health and education covering all segments of the population including poor and migrants - Reflect aforementioned in CCUPs
State level	- Provide convergence and financial resources to achieve 'outcome' for the citizens at large and reflect in the SIUP - State Data centers to provide data and related infrastructure
Central level	- Provide guidelines and financial resources based on outcomes defined in the CCUPs and SIUP - Establish 'National Urban Database Agency' to handle all form of urban databased/ big data analytics and support every level in urban hierarchy

Outcomes

	Short-term	Mid-term	Terminal Outcomes
ULB level	Align CCUP with ICCC services model	Expand and integrate all city services at ICCC	Unified information platform on 'outcome based' framework (Capacity, Finance Governance)
State level	Converge schemes, funds and alignment to global frameworks	Facilitate integration of all city services at ICCC	
Central level	Provide guidelines on 'outcome based' support	Established dedicated institution to backstop	

Environmental Sustainability

A central principle of sustainable development is a holistic view of life where all objects and activities are interconnected and mutually affect one another and in turn are affected by each other. The Government of India recognizes environmental sustainability as a key element towards sustainable urbanization and is a signatory to multiple international agreements, including the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, and the Quito Declaration on Sustainable Cities and Human Settlements for All, International Solar Alliance among others to steer India towards a low carbon, resource efficient and sustainable future.

India's cities are amongst the worst affected in terms of air pollution with 6 out of 10 most polluted cities worldwide being located in India including Delhi, which is ranked as the world's most polluted city (World Air Quality Report, 2019). Urban air pollution is a complex problem with numerous sources including vehicular exhaust, emissions from industry and power plants, dust from construction sites and roads, crop burning, garbage burning, inefficient use of energy in buildings, excessive use of biomass for cooking and heating, hazardous industrial waste, among others. In many north Indian cities such as the NCR, the problem becomes particularly acute in winter as the pollution builds up near ground, prompting emergency health warnings.

Cities are the hubs of resource use as well as the biggest generators of waste. The solid waste profile of urban areas covers household waste, construction and demolition waste, e-waste and more, which are expected to increase and worsen in coming decades with rapid urbanization. The inadequate capacity for collection of solid waste leads to open dumps spread across the cities. Urban flooding is a recurring phenomenon in major economic hubs such as Mumbai, Chennai, Bengaluru, and Gurugram. Urbanization has also exposed relatively higher number of people to the risks and vulnerability from natural disasters,

global warming and climate change related phenomenon such as flash floods, droughts, and heat waves, which are exacerbated due to poorly serviced areas, lack of affordable housing resulting in the increase in informal settlements often located in low lying or hazardous areas.

Energy use in buildings and vehicles is also one of the key contributors to urban heat islands (UHI) in cities and poor indoor and outdoor air quality. Globally, cities are taking up voluntary commitments to clean energy (e.g. 100% renewable energy), driven by increased resilience, decreasing dependence on fossil fuels and meeting carbon emission mitigation targets. These cities are investing in energy efficiency (EE) improvements in parallel with push to renewable energy (RE) generation to accelerate transition to zero energy and zero carbon cities.

Rationale

First, environmental sustainability requires a long-term vision and concerted policy framework. As for example, water bodies in India are extremely polluted by both solid and liquid wastes. Industrial and domestic effluents find direct way to the rivers and seas. This water pollution not only adversely impacts the cities' immediate ecology but also all habitations which are downstream, which necessitates riverine health to be mainstreamed in city master plans. On site sewerage solutions including fecal sludge management are strategies to be adopted.

Based on existing and on-going diagnostics, there is an impending urgency to address deteriorating air quality, degradation of water resources and waterways, non-existent treatment and disposal of solid waste, and recurring risks from natural disasters. Both short-term and long-term climate risks need to be integrated in long-range planning processes to mainstream urban resilience and risk mitigation practices in urban environmental planning.

Second, recognizing the complexity of cities and the dynamism and scale of urbanization, environmental sustainability must be mainstreamed at all levels of government, and by

enabling participation of all urban stakeholders. Environmental sustainability requires an integrated approach across urban sectors to plan proactive measures to prevent, avoid and minimize adverse impacts from the natural systems upon which our communities, businesses and infrastructure systems depend. To this end, planners and developers must be conscious of the changing environmental landscape and must ensure that their decisions respond intentionally and responsibly to environmental challenges. Third, as India falls under the high-risk zone for potential mortality due to multiple hazards, which include earthquakes, floods, cyclones, droughts, tsunami and landslides. With high densities of population concentrated in cities disaster risk mitigation and resilience schemes are imperative to ensuring long term, sustainable social and economic improvement. Infrastructure and physical assets are also at high risk due to poor resilience to disasters. Fourth, large expanses of impermeable surfaces have been created, which exacerbate heat island effects and increase surface water runoff resulting in inundation of cities. As cities become inundated by water, polluted with human waste and toxic materials, risk of illness is heightens. Fifth, concerns about the impact of city expansion on natural ecosystems should be intrinsic to urban development plans, including master plans.

Summary of Actions

Level	Key Actions
City level	- Pollution monitoring - Adoption of Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles (FAME) - Comprehensive sanitation plan to be part of CCUP - Expanding the green spaces - Water management plans (5-10-year horizon) with specific reference to existing water bodies (sea, river, ponds, lakes and tanks), integrate with CCUP - City Disaster Risk Reduction and Resilience Plan (DRRRP) to be part of CCUP - Prepare City Energy Efficiency Plan
State level	- Prepare State Urban DRRRP - Assist with convergence, technical support and 'outcome basis' to ULBs
Central level	- Provide framework for water management, DRRRP, energy management plans - Facilitate financial resources on 'outcomes basis'

Outcomes

	Short-term	Mid-term	Long-term
ULB level	- Prepare plans (water, DRRRP, energy, CCUP) - Integrate and mainstream health of water bodies (sea,river, pond, tank etc.) in master plan	Implement the 'outcome based' plan	Environment, social, sustainable and resilient cities
State level	Consolidate local plans to state action plans	Facilitate convergence with diverse departments	
Central level	Provide necessary frameworks	Facilitate convergence with diverse departments	

Annexure 1:
NUPF Outcomes Matrix (illustrative for States to assess Cities)

Intents (ten functional areas)	Actions Outcome based actions as per CCUPs	Means of Verifications (Objectively Verifiable Indicators)

Urban Planning	Action 1: Master Plans (integrating spatial and economic focus) prepared	▪ Prepared
		▪ Notified
		▪ Integrated with economic focus
		  • Discussion paper on 'integrated spatial and economic focus' prepared by city
		  • Stakeholder consultation completed on the discussion paper
		  • Suggestions/ amendments incorporated in Master Plan done based on stakeholder consultation
		  • Alignment of suggestions/ amendments to 'strategic intent' of NUPF, how it will contribute to:
		    • *Atmanirbhar Bharat* (Self Reliant India)
		    • Vocal for local
		    • USD5 trillion economy by 2025
		    • Potential for direct and indirect jobs

	Action 2: Master Plans revisited and revised in every two year	▪ Consultative review for Master Plan
		  • Technical status paper for discussion
		  • Consultation
		  • Review and incorporation of feedback
		  • Revisions/ amendments in Master Plan (as applicable)

Note: Appropriate weights/ scoring criteria's may be decided by GoI in consultation with States and ULBs

Annexure 2:
NUPF Outcomes Matrix (illustrative for GoI to assess States)

Intents (ten functional areas)	Actions Outcome based actions as per SIUPs	Means of Verifications (Objectively Verifiable Indicators)

Urban Planning	Action 1: Master Plans (integrating spatial and economic focus) prepared	▪ No. of cities prepared Master Plan
		▪ No. of Master Plan(s) Notified
		▪ No. of Master Plan(s) integrated with economic focus
		  • Discussion paper on 'integrated spatial and economic focus' prepared by city
		  • Stakeholder consultation completed on the discussion paper
		  • Suggestions/ amendments incorporated in Master Plan done based on stakeholder consultation
		  • Alignment of suggestions/ amendments to 'strategic intent' of NUPF, how it will contribute to:
		    • *Atmanirbhar Bharat (Self Reliant India)*
		    • *Vocal for local*
		    • *USD5 trillion economy by 2025*
		    • *Potential for direct and indirect jobs*

	Action 2: Master Plans revisited and revised in every five year	▪ No. of Master Plan(s) revisited and revised
		▪ Process adopted on consultative review for Master Plan
		  • Technical status paper for discussion
		  • Consultation
		  • Review and incorporation of feedback
		  • Revisions/ amendments in Master Plan (as applicable)

Note: Appropriate weights/ scoring criteria's may be decided by GoI in consultation with States and ULBs

Annexure 3:
NUPF Outcomes Matrix (illustrative for GoI to assess overall NUPF)

Intents (ten functional areas)	Actions Outcome based actions as per NUP	Means of Verifications (Objectively Verifiable Indicators)

Urban Planning	Action 1: Master Plans (integrating spatial and economic focus) prepared	▪ No. of states/ cities prepared Master Plan
		▪ No. of states/ Master Plan(s) Notified
		▪ No. of states/ Master Plan(s) integrated with economic focus (with focus on process followed):
		  • Discussion paper on 'integrated spatial and economic focus' prepared by city
		  • Stakeholder consultation completed on the discussion paper
		  • Suggestions/ amendments incorporated in Master Plan done based on stakeholder consultation
		▪ Alignment of suggestions/ amendments to 'strategic intent' of NUPF, consolidated contribute to:
		  • Atmanirbhar Bharat (Self Reliant India)
		  • Vocal for local
		  • USD5 trillion economy by 2025
		  • Potential for direct and indirect jobs

	Action 2: Master Plans revisited and revised in every five year	▪ No. of Master Plan(s) revisited and revised by State(s)
		▪ Process adopted on consultative review for Master Plan
		  • Technical status paper for discussion
		  • Consultation
		  • Review and incorporation of feedback
		  • Revisions/ amendments in Master Plan (as applicable)

Note: Appropriate weights/ scoring criteria's may be decided by GoI in consultation with States and ULBs

Annexure 4:
NUPF Integrated Outcomes Matrix

Functional Areas	Longer-term Outcomes		
	City	State	National
Urban Planning	Self-reliant and empowered ULBs	Dynamic, iterative, adaptive, gender-responsive and evolving plans	Transition to long-term flexible Master Plans
Urban Economy	Inclusive, functional BIDs and CECs	Leveraging human capital in cities	Contributing to achievement of Atmanirbhar Bharat
Physical Infrastructure	Universal Coverage of all municipal services		
Social Infrastructure	Moving out of poverty & vulnerabilities		
Housing and Affordability	Increasing affordable Housing for all		
Transportation and Mobility	Transition to affordable and accessible green mobility		
Urban Finance	Financial sustainability and efficient service delivery		
Urban Governance	Streamlined funds, functions functionaries (directly facilitating Atmanirbhar Bharat)		
Urbanization and Information System	Unified information platform on 'outcome based' framework (Capacity, Finance and Governance)		
Environmental Sustainability	Environment, social, sustainable and resilient cities		