



Master Plans and Water Governance:

Evaluating the Legal Architecture

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1. Introduction

The statutory Master Plan remains India's most institutionalized and widely practiced urban planning instrument. Codified in state-specific Town and Country Planning Acts and implemented primarily by Development Authorities, the Master Plan is legally binding, spatial in nature, and is aimed at controlling land use, infrastructure provisioning, and future urban expansion. However, as Indian cities increasingly face water-centric challenges such as flooding, water pollution, groundwater contamination and depletion, developments upon wetlands and floodplains of rivers, encroachment of floodplains, it becomes crucial to evaluate the effective implementation of the statutory planning tools to mitigate these challenges.

Despite the recognition of the urgency in integrating environmental considerations into planning provisions, such approaches continue to be programmatic and sometimes also ad-hoc. The master planning process which holds the potential for statutory and hence long-term provisions to anchor these concerns remains constraint by its legal architecture, rationalities and institutions.

In light of this, this brief examines where does water-sensitivity figure within the legal and institutional architecture of the Master Plan and proposes key avenues for possible reform. It begins by analysing the existing structures, instruments, and rationalities that underpin the Master Plan. This is followed by an assessment of critical gaps to understand where, and to what extent, water sensitivity is embedded within the legal architecture of India's sole statutory urban planning tool. The brief concludes with a set of recommendations aimed at integrating water-sensitive concerns into the master planning process.

2. Institutions of the Master Plan Instrument

There is no uniform institutional structure for the formulation and implementation of Master Plans in India. Each state follows its own legislation and administrative setup. However, some states share similar models.

Delhi and Uttar Pradesh are governed by a similar structure. For Delhi, the Central Government may declare any area Delhi to be development area & shall constitute an authority called Delhi Development Authority (DDA) with Lt. Governor of NCR to be Chairman with the objective to promote and secure the development of Delhi according to plan where the Authority has the power and performs functions to secure the aim. The DDA may constitute Advisory Council to advise the Authority on preparation of the master plan & other matters. This is replicated in the state of Uttar Pradesh, where the State Govt. declares area for development & constitute a Development Authority. Its objective is to promote and secure development of the government's proposed development area with the help of Advisory Council and has the power to acquire, hold, manage & dispose of land.

For the states of West Bengal and Bihar, the State government constitutes a Board first. West Bengal Town and Country Planning Advisory Board is constituted by the State government where the Chief Minister of West Bengal becomes the Chairman of the Board. The Board declares a planning area and also sets Planning Authority or a Development Authority for that area. The authority then invites area development schemes. Similarly, for Bihar, the Bihar Urban Planning and Development Board is appointed by the State Government which declares the proposed development area and advises the government on planning and development. The Board constitutes an authority for such area as a Planning Authority, or, instead of constituting a Planning Authority for a Planning Area, the government can also designate any Local Authority functioning in a Planning Area as the Planning Authority for that area. The Authority invites Area development schemes.

Madhya Pradesh, Himachal Pradesh and Chhattisgarh follow a different structure in their institutions by appointing an officer to be the Director of Town and Country Planning for the state with other officers to assist him. In all the three states, it is the duty of Director is to prepare regional plan. State Government may modify development plan or zoning plan on the application of the Director. The State Government may establish a Town and Country Development Authority, with the duty of implementing the proposal in the development plan, preparing one or more town development schemes. In these states, the state government may designate the area as special area if it requires special focus for development and forms the Special Area Development Authority.

In Uttarakhand, the Uttarakhand Housing and Urban Development Authority is established by the State Government, which declares area for development. The Authority can setup Local Development Authority (LDA) in any development area it deems fit with the objective to promote and secure development of the government's proposed development area with the help of Advisory Council. It has the power to acquire, hold, manage and dispose of land. Like in Uttar Pradesh and Delhi, the Uttarakhand Housing and Urban Development Authority too can appoint an Advisory Council. Rajasthan has a unique colonial legacy of institutions where a Board of Trustees, called the Improvement Trust of the place, may be established by State Government for carrying out improvement of any urban area. The Trust may appoint committees consisting of a Trustee of Trustees, and functions on Trust's instructions with absolute powers and functions with the Municipal Board. There is a mandated integration sought between the Improvement Trusts and the Municipality.

In Haryana, the state government may establish an authority to be known as 'Haryana Shehri Vikas Pradhikaran' (HSVP) which shall also act as local authority with the objective to promote and secure development of the government's proposed development area. The Local development Authority may make any amendment in the master plan or the sector development plan.

In Jharkhand, the institutional set-up is uniquely de-centralised. For each municipality in Jharkhand, there shall be constituted a body of members to be called the Council having authority over the municipality. State Govt may require the municipality to prepare and submit to the Government, a Draft Master Plan in respect of their municipality.

3. Structure of the Master Plan Instrument

The structure of the master planning tool varies across the Ganga Basin states. Some states have instituted a two-tier planning structure, while others follow a single-tier or three-tier approach.

The structure of the master planning tool varies in the Ganges Basin states, as some has instituted a two-tier planning structure while others have only one or three tiers. For Delhi, Uttar Pradesh and Uttarakhand, the Development Authorities prepare the Master Plan as well as Zonal Plan. The Delhi Development Act, 1957 (with latest amendments in 1996), states that "Master Plan shall be prepared by Authority which is a comprehensive framework that outlines the allocation of land use, and development policies for the urban region considering various factors." The Zonal development plans, states the act, "would be prepared simultaneously which provide detailed guidelines for specific zones, may contain a site-plan and use-plan for the development, approximate locations and extents of land uses proposed in the zone for public and private uses. It shall specify the standards of population density and building density.

It shall include provisions regarding all or any of the following matters like Division of sites into plots, Erection, Alignment, allotment or reservation of land, development of any area into a township or colony, prohibitions or restrictions, & any other matters necessary for the proper development of the zone or area.”

The Uttar Pradesh Urban Planning and Development Act 1973 (with latest amendment in 2007), mandates the preparation of both Master Plan and Zonal development plan by the development authority. The act states that “Master Plan will be prepared by the authority which is a comprehensive framework that outlines the allocation of land use, and development policies for the entire urban region considering various factors.” The Zonal development plans, “may contain a site-plan and use-plan for the development, approximate locations and extents of land uses proposed in the zone for public and private uses. It shall specify the standards of population density and building density. It shall also include provisions regarding all or any of the following matters like Division of sites into plots, Erection, Alignment, allotment or reservation of land, development of any area into a township or colony, prohibitions or restrictions, & any other matters necessary for the proper development of the zone or area.”

The Uttarakhand Urban and Country Planning and Development Act, 2013 (originally 1973) also mandates the preparation of the Master plan and the Zonal development Plans, in which the Master Plan “will be prepared by the authority's appointed agency in consultation with Local Development Authority. Master Plan will divide the proposed area into development & monitor the manner of use of land. It serves as a basic pattern of framework within which the Zonal development plans of the various zones may be prepared.” The power to make any modifications on the Master plan or the Zonal development plans rests with the development authorities of the states.

For the states of West Bengal and Bihar, the structure of Master Planning includes the preparation of a land-use Register along with the land-use map. The West Bengal Town and Country (Planning and development) Act, 1979, mandates a three-tier planning with three authorities. The three stages of planning include the preparation of Land Use Map & land use Register, outline development plan and a detailed development plan. The act states that, “Land Use Map and a Land Register shall be prepared indicating the present use of lands in the Planning Area by the authority within 1 year. Outline Development Plan would be made which shall contain such maps, diagrams, illustrations and descriptive matters appropriate for the purpose of proposals in the plan. Detailed Development Plan within three years of declaration of Outline Plan. It consists of a map and written statement, all or any of the particulars indicated in Outline plan, comprehensive allocation of areas, zoning regulations, etc. It includes 3 authorities, where the decision of State govt. would be supreme among Advisory Board, planning and development authority.

The Bihar Urban Planning and Development Act, 2012 replaced the old act of 1974 (with the latest amendment in 2022) and mandates the preparation of Land Use Map & land use Register, Development Plan and a Zonal development plan. The act lays out that “Land Use Map & Land Use Register shall be prepared indicating the present use of every piece of land in the Planning, required to be done by the Planning Authority. The Development Plan will be prepared after rectification with a time frame of twenty years. The Development Plan shall indicate/define/provide the manner to allocate or use any land for development & the stages of development, together with financial implication of each stage. The Zonal Development Plan with zoning regulations to regulate within each zone, the location, density of population, FAR, height, number of storeys and size and number of buildings and other structures, the size of yards, courts and other open spaces and the use of buildings, structures, land and any other matter as required; be present in Development Plan itself.

The states of Madhya Pradesh, Himachal Pradesh and Chhattisgarh follow a three-tier planning model with the preparation of Regional Plan, Development Plan and sectoral/Zonal Plan where the Acts mandates freezing of land. The M.P. Nagar Tatha Gram Nivesh Adhiniyam, 1973, The Himachal Pradesh Town and Country Planning Act 1977 (with latest amendment in 2018) and the Chhattisgarh Nagar Tatha Gram Nivesh Adhiniyam, 1973 (with latest amendment in 2017) provides for 3 Stage of Planning: Regional plan gives the proposals, development plan takes into account all factors of development & Zoning plan provide a roadmap for development area.

Under these acts, “Development plans will be prepared by the Director and shall carry out the survey and prepare an existing land use map & freeze the land after publication. The development plan shall take into account any draft five-year and Annual Development plan of the district prepared”. The Zoning Plan “shall be prepared by Local authority within six months of publication of development plan. The zoning plan shall enlarge the details of land use as indicated in the development plan.” The regional Plan will be prepared by the Director, which shall indicate the manner in which land in the region should be used, the phasing of development, landscaping and the preservation of areas in their natural state, proposals relating to irrigation, water supply or flood control works, etc.

Rajasthan and Haryana implement a two-tier planning instrument, with Master Plan and Schemes (Rajasthan) and Master Plans and Sector development Plans (Haryana). The Rajasthan Urban Improvement Act, 1959 (with latest amendment in 2020), mandates that “Master plan shall define the various zones which have more than 1 lac population, for the purposes of its improvement and development & shall serve as a basic framework within which schemes and zonal development plans of the zones may be prepared. The Trust shall frame schemes for the improvement of the urban area regarding acquisition of land, lay-out plans, construction of buildings, etc. Scheme should conform with the master plan.”

The Haryana Urban Development Authority Act, 1977 (with latest amendment in 2019), requires that a local authority prepare a master Plan, defining the various sectors into which the local development area maybe divided. Simultaneously, the act mandates the preparation of Sector development plan, “which contain a site plan for the development of the sector. It shall include provisions regarding all or any of the following matters like Division of sites into plots, Erection, Alignment, allotment or reservation of land, development of any area into a township or colony, prohibitions or restrictions, & any other matters necessary for the proper development of the sector or area”.

4. Rationalities binding the Master Plan instrument

The rationalities validating the master planning instruments are fragmented and archaic, and like its structure and institutions, are different for different states. The need for a master plan was felt immediately after independence, as uncontrolled urban growth manifested itself in the form of haphazard growth, housing shortage and inadequate infrastructure. Citing these urgent challenges, the Delhi Development Act, 1957 was instituted. The Act “empowers the DDA to prepare and implement comprehensive development plans, allocate land for various purposes, and regulate land use to prevent haphazard growth and uncontrolled urban sprawl”. The rationality behind this act was effective land management and instituting a legal framework for planned development.

Uttar Pradesh, recognised that the problems of town planning and Urban development needed to be tackled resolutely. In order to bring about improvement, the State Government considered it advisable that in such developing areas, Development Authorities patterned on the Delhi Development Authority be established. As the State Government was of the view that the Urban development and planning work in the State had already been delayed it was felt necessary to provide for early establishment of such authorities. It was also recognised that “the existing local bodies and other authorities in spite of their best efforts have not been able to cope with these problems to the desired extent”. In light of these, the Uttar Pradesh Urban Planning and Development Act, 1973 was enacted to govern urban planning, development, and land use regulations in the state of Uttar Pradesh.

Uttarakhand adopted the 1973 legislation of its parent state Uttar Pradesh with slight modifications in the form of Uttarakhand Urban and Country planning and Development Act, 1973. The rationality of the Act lies in the importance given to the Local Development Authorities, the power to function.

With rapid urbanisation, fuelled by population growth, Haryana experienced rising demands for infrastructure, housing and other amenities, thereby necessitating planned urban development. Having a well-defined legal framework is also essential for resolving disputes, ensuring transparency in decision-making, and enforcing compliance with development regulations. In recognition of this, the Haryana Urban Development Authority Act, 1977 was enacted.

Rajasthan adopted the Rajasthan Urban Improvement Act, 1959, and Himachal Pradesh adopted the Himachal Pradesh Town and Country Planning Act 1977 in order to improve and plan better for its urban areas. The Act provides for the regulation of land development and expansion of urban areas.

The West Bengal Town and Country (Planning and development) Act, 1979, was enacted to implement development plans for urban and rural areas with the objective of providing and managing infrastructure developments and unplanned growth.

Bihar replaced its older act of 1974 and enacted the Bihar Urban Planning and Development Act, 2012 with a more comprehensive vision of development. The Act sought to address “the challenges of planned and sustainable urban development, environmental conservation, equitable distribution of resources, public participation, and controlled land use by providing for better control and governance by appointing a Board, which further appoints a Planning Authority (which is the prime authority on preparation of development plans in Bihar).”

Madhya Pradesh and Chhattisgarh were guided by similar rationalities when they enacted the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973 and the Chhattisgarh Nagar Tatha Gram Nivesh Adhiniyam, 1973. The acts sought to provide provisions for planning and development and use of land. It sought to make better provisions for the preparation of development plans and zoning plans with a view to ensuring that town planning schemes are made in a proper manner and their execution is made effective and to constitute Town and Country Planning Authority for proper implementation of town and country development plan. The act makes a provision for the development and administration of special areas through the Special Area Development Authority, in order to facilitate the compulsory acquisition of land required for the purpose of the development plans.

Jharkhand instituted the Jharkhand Municipal Act, 2011, to consolidate and amend the laws relating to the Municipal Governments in conformity with the provisions of the Constitution of India, as amended by the Constitution (74th Amendment) Act, 1992. The act is based on the principles of participation in, and decentralization, autonomy, and accountability of, urban self-government at various levels, to introduce reforms in financial management and accounting systems, internal resource generation capacity, and organizational design of municipalities, to ensure professionalisation of the municipal personnel, and to provide for matters connected therewith or incidental thereto.

5. Identifying the Gaps - Where does water sensitivity figure within the legal paraphernalia of India's only statutory planning tool?

The analysis of the previous sections regarding the structures, instruments and rationalities that uphold the statutory tool brings out the following challenges:

1. That, the Master Plan's origin is a land-centric initiative and it continues to dominate as a land-use paradigm in urban planning:

In the wake of British urban planning framework, the Master Plan was adopted as the default standard of urban planning in India. Colonial and post-independent concerns regarding detrimental sanitation, widespread diseases on the one hand and the pressing concerns of settling post-partition refugees, unregulated urban growth, catering to infrastructure inadequacies culminated in the early legislation of the Delhi Development Act, 1957, which essentially qualified the Delhi Development Authority (DDA) to prepare, implement and thereby regulate Delhi's growth through the Master Plan instrument. Land allocations and its management thereby became the central axis of Delhi's urban planning rationalities.

The contiguous states of Delhi enacted similar land-use centered Acts, keeping the DDA Act as the point of reference. Uttar Pradesh Urban Planning and Development Act, 1973 was enacted to govern urban planning, development, and land use regulations in the state of Uttar Pradesh. Uttarakhand adopted the 1973 legislation of its parent state Uttar Pradesh with slight modifications in the form of Uttarakhand Urban and Country planning and Development Act, 1973. The Haryana Urban Development Authority Act, 1977 was enacted in response to rising demands for infrastructure, housing and other amenities, while the Rajasthan Urban Improvement Act, 1959, and the Himachal Pradesh Town and Country Planning Act 1977 was adopted to provide for the regulation of land development and expansion of urban areas.

Environmental management, water-sensitive planning therefore has historically not been prioritised in the planning Acts as land management continued to be the pressing challenge and therefore the dominant paradigm. Urban water-bodies, within this paradigm was viewed as static land-parcels enabling its allocation for development purposes. It is only recently, that the environmental concerns have begun to take root, firstly owing to a growing consciousness regarding the environment and secondly, due to new environmental challenges that has been added to the urban spaces of the country.

2. That, environmental references when present remains vague and open-ended:

Some T&CP Acts like, for the state of Bihar, Act 2012 include tangential references to protection of urban water bodies, under broad mandates of sustainable practices and environmental protection approach. Although a welcome step, these provisions continue to carry the risk of been read as rhetorical as their vagueness enables an open-ended interpretation. So, while urban water bodies may be protected through project implementation, like the Patna Riverfront development project; it fails to ensure a totality of environmental conservation as an urban planning practice to be implemented in all urban planning practices. They simply offer a discretionary space to consider concerns related to water.

3. There continues to be jurisdictional gaps along with institutional fragmentation:

A key challenge to water-sensitive urban planning in India lies in the jurisdictional gaps and institutional fragmentation that governs the Master Plan. The authority of the statutory T&CP Acts is what mandates state-level Town and country planning departments, Development Authorities and Municipalities to implement the Master Plan. However, there is a challenging fragmentation within the institutional ecosystem that implements the Master Plan. These institutions might not possess the technical expertise, a coordination mechanism, or real time data to manage rivers, floodplains and water-bodies.

Additionally, responsibilities related to water bodies are also distributed across multiple agencies like irrigation departments, environmental departments, pollution control boards- which has created institutional silos in managing urban water bodies. For instance, while the DDA is responsible for preparing the Master Plan of Delhi, the jurisdiction of the Yamuna floodplains falls under the Delhi Irrigation and Flood Control Department, whereas pollution control falls under the Delhi Pollution Control Committee (DPCC). Such an institutional and legal architecture makes the implementation of the Master Plan a fragmented and ad-hoc exercise.

The Bhopal master plan testifies to such gaps as its lakes and ponds continues to be encroached and polluted despite having a plan in place owing to inadequate coordination between the municipal corporation, planning department and water resource department. The management challenges of the Mithi river is another case in point driven by such institutional overlaps and siloed approaches.

Although recent initiatives like the Urban River Management Plans (URMPs) have been prepared for some river towns, its implementation lack legal enforceability, unless integrated into the statutory master plan.

4. That, there is a gap when it comes to restoration and protection of urban water bodies along with environmental or climate adaptation:

The planning laws that have been examined in the previous section for all the eleven Ganga Basin states, shows that there is also no provision for restoration and protection of urban water bodies and also none for environmental or climate adaptation, despite growing challenges like urban flooding, flash floods, cloudbursts and landslides, disappearance of lakes and water bodies along with pollution which are caused because of climate change.

Even in the recently mandated acts like for the states of Bihar or Jharkhand, although a 'language' of environmental sustainability is included, the acts remain silent on key aspects of water-sensitive urban governance or fail to operationalise pathways that might be adapted for rejuvenation of urban water bodies. As a result, even with environmental provisions, a water-sensitive urban development framework remains missing due to the lack of clarity and enforceability in the acts itself. As a result, the statutory planning frameworks remains limited in its approaches to achieve water-sensitive plans.

5. That the master Plan is a top-down planning approach with limited engagement from the public and limited integration of local knowledge

Water knowledge in India is deeply rooted in communities as forms of practise; like socio-cultural practices and traditional knowledge. The technocratic master plan might gain from public engagements and pragmatic inclusion of context-specific local knowledge to cater to specific water related challenges of urban areas. For example, delineating seasonal streams which might be missed out as a land category.

6. That judicial interventions are increasingly sought to cater to legal void

Owing to the absence of robust statutory protection mechanisms for urban water bodies, judicial interventions have become a practise, particularly by the National Green Tribunal and High Courts, as an acceptable approach to safeguarding lakes, wetlands and floodplains. There have been several critical cases across the Ganga basin:

- a. Yamuna Floodplain, Delhi (Manoj Misra v. Union of India, Original Application No. 6 of 2012, National Green Tribunal (Principal Bench), Judgment dated January 13, 2015 (India)).
- b. Urban lakes, Patna (Rajiv Narayan & Anr. v. Union of India, Original Application No. 36 of 2012, National Green Tribunal (Principal Bench), Judgment dated September 20, 2013 (India)).
- c. East Kolkata Wetlands, Kolkata (Dr. Subhas Datta v. State of West Bengal, Writ Petition No. 2125 (W) of 2001, Calcutta High Court, Judgment dated March 30, 2004 (India)).
- d. Ponds and Water Tanks, Varanasi (Society for Protection of Environment and Biodiversity (SPEnBio) v. State of Uttar Pradesh & Ors., Original Application No. 660 of 2016, National Green Tribunal (Principal Bench), multiple orders 2016–2022 (India)).

Although such interventions have created crucial public awareness about the importance of urban water bodies, judicial interventions cannot become a standard practise to protect and rejuvenate water bodies. Urban water bodies are ecological infrastructure of the urban, and therefore, in the face of emerging environmental and climate stressed challenges, institutional and statutory mandates remain the long-term viable option.

6. Interventions undertaken to reduce the gaps.

a. Through reforms in the T&CP Acts.

The existing T&CP laws can be reformed through the establishment of an apex committees at the state level. The committee's objective will be to periodically review and update urban planning legislations .

b. Through reforms in the UDPFI Guidelines of 1996 and 2015 and NIDM Model Law 2004

In 1995, a National Workshop on the 'Master Plan Approach: Its efficacy and alternatives' was conducted. The objective was to engage with and critically evaluate the process and implementation of urban development . A key outcome of this workshop constituted the first national scale planning guidelines: Urban Development Plans Formulation and Implementation (UDPFI), formulated by the Institute of Town Planners, India in 1996. These guidelines provided a framework for plan preparation and implementation.

With emerging urban challenges getting recognition, these 1996 guidelines were revised, upgraded and released as the URDPFI guidelines in 2015.

It is interesting to note that challenges related to water and urban water bodies were not explicitly identified as critical urban problems, although their relevance was indirectly recognised under broad terms . It is also noteworthy that the URDPFI guidelines positions 'sustainability' under the ambit of the Regional Plan and not the Master Plan. On urban water bodies, the guidelines outline the following provisions:

- There is a need to analyse the hydrological system with reference to catchment basins for the water bodies.
- Recommends State and ULBs to take initiatives in order to conserve water bodies.
- Recommends incorporating other provisions laid out in the MoUD & MoEF Report, 'Advisory Report for Conservation and Restoration of Water Bodies' like integrating identified projects on water bodies with Programmes such as National Lake Conservation Programme and National Wetland Conservation Programme, JnNURM/ UIDSSMT, Ministry of Water Resources programme for Repair, Renovation & Restoration (RRR) of Water Bodies with Domestic/External Assistance which are undertaken by Government of India (GoI) .
- For river conservation, the guidelines suggest incorporating the initiatives taken by MoEF like the National River Conservation Directorate (NCRD) and aligning with plans such as the Ganga Action Plan and Yamuna Action Plan to conserve rivers .

Table: Suggestions in the URDPFI guidelines 1996, 2014 and NIDM Law, 2004

Compliance of Suggested Modifications in the Town Planning Legislations in India												
Proposed by:	Suggested Modifications in T&CP legislations	Uttarakhand	Delhi	Uttar Pradesh	Rajasthan	Haryana	Bihar	West Bengal	Madhya Pradesh	Chhattisgarh	Himachal Pradesh	Jharkhand
URDPFI Guidelines 1996 & 2014	Area/Town Planning Scheme	✓ Section 9-A - Local Area Plan and Town Planning Scheme [Amendment of 2022]	X	X	✓ S. 29 Improvement Schemes	X	✓ S. 46 - Area Development Scheme [Amendment 2022]	✓ S. 91 - Development Scheme	✓ S. 50 - Town Development Schemes	✓ S. 49 - Town Development Schemes	✓ S. 51 - Town Development Schemes	X
	Land Pooling Schemes	✓ Section 17-A (c) - Land Bank of State Authority - Clause (c) - Land Acquisition/Pooling Policy of the development authorities.	✓ Not included in TP Law but enacted by TP Law (Delhi Land Pooling Scheme, 2018)	X Section 9-A - Land Pooling Schemes [Amendment Bill 2011, But not passed]	✓ Not under TP Law (Rajasthan Land Pooling Schemes Act, 2016)	✓ By Town Planning Department; Not under TP Law (HSP Land Pooling Policy)	✓ Not Under TP Law (Land Pooling Policy, 2019)	X	✓ Not Under TP Law (MP Land Pooling Scheme, 2022)	✓ RDA's land pooling policy	X	X
	Transferable Development Rights	X	X	X	X	X	✓ S. 2 (LII) - Transferable Development Right (TDR)	X	✓ S. 2 (va) - Transfer of the development rights (TDR)	X	X	✓ Jharkhand Transferable Development Rights Rules, 2017
	State Regulatory Body/Board	X	X	X	X	X	✓ S. 3 - Bihar Urban Planning and Development	✓ S. 3 - State Town and Country Planning	✓ S. 38 - Town and Country Development	✓ S. 38 - Town and Country Development	X	X

						nt Board	Adviso ry Board	Autho rity	Autho rity		
Interstate P lanning	X	✓ The National Capital Region Planning Board Act, 1985				X	X	X	X	X	X
Replacing o ld Land Acquisition Act of 1894 with the LA RR Act of 2013	X	X	X	X	X	X	X	X	X	X	✓
Planning fo r Green Citi es	X	X (Pro visio n not under T&C P Law)	X	X	X	✓ S. 21 (2) (iii) - Prepa ration of Devel opme nt Plan Claus e (2) (iii) - areas reserv ed for agricu lture, public and semi-public , open space s, parks, playgr ounds, garde ns and other recrea tional uses, green belts, herita ge area precin cts and	✓ S. 58 (2) (f) - Develo pemen t Schem e - Clause (2) (f) - the allotm ent or reserv ation of land for roads, open spaces, garde ns, recreat ion groun ds, school s, marke ts, indust rial and comm ercial activiti es, green belts and dairies ,	✓ S. 21 (b) - Conte nts of Zonin g plan Claus e (b) - define in detail and provide for areas reserv ed for agricu lture, public and semi-public open space s, parks, playgr ound, garde ns, recrea tional areas, green-belts and natur e reserv es.	✓ S. 17 - Conte nts of DEvel opme nt Plan - Clasu e (b) - alloca te broadly areas of land, keepi ng in view regula tions for natur al hazar d prone areas S. 21 (b)	✓ S. 17 (b) S. 22 (1) (b)	X

							natural reserve;	transport facilities and public purposes of all kinds				
NID M Model Law 200 4	Land Use Zoning: Provisions on Natural Hazard, Natural Hazard Prone Areas, Natural Disaster and Mitigation	X	X	X	X	X	✓ S. 2 (XXXI) - "Natural Hazard Prone Areas" S. 22 - Contents of Development Plan. Clause (2) (x) "mapping of vulnerable areas which are disaster prone and a plan for pre- disaster, disaster mitigation and post- disaster requirements for speedy recovery to normal life."	✓ S. 31 (4) (f) - Outline Development Plan - Clause (4) (f) - indicate areas or zones for catchment, soil conservation, plantation, unsafe for any construction, subsidence for any reason including operation of mines, earthquake prone area and control of natural disaster.	✓ S. 17 - Contents of the Development Plan Clause (b)- Allocate broadly areas or zones of land, keeping in view the regulations for natural hazard prone areas.	X	X	✓ S. 480. Management of natural or technological disasters.

c. Through the adoption of crucial advisory toolkits

In order to integrate management of urban water bodies into urban planning several advisory toolkits have been launched that outline the detailed management, protection and rejuvenation of urban rivers and urban water bodies. Key advisory toolkits include:

- 'Strategic Guidelines for Making River-Sensitive Master Plans' prepared by NIUA, NMCG
- 'Urban River Management Plans' prepared by NIUA, NMCG
- 'Water-Sensitive Cities Index Handbook' prepared by CSE, NMCG
- 'Advisory on Conservation and Restoration of Water Bodies in Urban Areas' prepared by MoUD
- 'River Centric Urban Planning Guidelines' prepared by TCPO, MoHUA
- 'Waterbody Rejuvenation Advisory' prepared under AIWASI, MoHUA
- 'Urban Wetland/Water Bodies Management Guidelines' prepared by SPA, NMCG

It is important to note that, these toolkits remain non-binding and have yet to be integrated into statutory planning instruments. As a result, their implementation largely depends on the discretion of individual planners or planning departments overseeing the preparation of Master Plans.

7. Suggestions for Reforms

The discussion brings out that water sensitivity does not occupy a central or prominent position in India's existing statutory planning domain. The only statutory planning instrument of Master Plan remains land-centric, and is governed under a fragmented institutional ecosystem and challenged legal architecture. However, there is also a growing recognition among practitioners that environmental and water related concerns are increasingly becoming central to India's urban spaces.

To address this gap, there has to be a coordinated effort from within and connecting various sectors:

- Toolkits like the URMPs and Climate Action Plans could be integrated with the Master Plans so that their implementation becomes binding.
- The range of advisory toolkits, as mentioned, offer valuable guidelines to governing urban water bodies, which can be integrated with the statutory planning instruments, depending upon the context and need of the urban.
- A state-wise sectoral revision of the T&CP acts through the creation of an apex committee.
- Strengthen co-ordination between planning authorities and NMCG through research, applied documentation and workshops.

Finally, it is also crucial to move beyond engaging with urban water bodies and rivers as an external geography; but recognised as crucial ecological infrastructure of the urban system. Planning laws, institutions and rationalities that uphold the Master Plan must evolve to embed this water-sensitive framework for urban planning praxis in India.

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