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NAMAMI GANGE

PLANNERS' CIRCLE

Master Plan(ning) For Urban Water Bodies

CONTENTS

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01 | Background

Master Plan is the sole statutory instrument for promoting and regulating urban growth in India. The concept, configuration, rationalities of, and the institutional structures surrounding the instrument are conceived by legislations drafted before 1970s – by states, per the federal organization of powers. In contrast, India's environmental renaissance began after the Stockholm Conference in 1972 - when the Government of India enacted the Water Act 1974, to control and prevent water pollution. While this is a central legislation primarily focused on industrial pollution, the legal and institutional frame of Master Plan remained unchanged with its archaic conceptions for planning and governing urban growth in India.

On the other hand, India's urban growth confronts newer challenges: degeneration of water bodies and their ecosystems, urban floods, groundwater depletion, climate change linked risks, and so on. Despite the growing awareness and enhanced efforts by the state institutions as well as the civic society, urban environmental management remains a challenge.
For a NMCG supported research project, TREADS@ CPR seeks to critically engage with the instrument of Master Plan to revisit the idea of statutory spatial planning for environmental management.

02 | Planners' Circle

Scholarly engagement with the statutory Master Plan as a planning instrument remains notably limited. The predominant body of knowledge surrounding its application and implications is generated by practitioners, situating it firmly within the domain of praxis. To address this gap and leverage the experiential insights of planning professionals, the Planners' Circle has been conceptualized as a dedicated forum. It aims to draw on expert planners' experiences and build on the wisdom and insights of practising planners. The initiative seeks to reimagine both the structural design and the underlying rationalities of the statutory Master Plan, with a particular focus on enhancing the planning and governance of urban water bodies in Indian cities.

The inaugural session—Planners' Circle: Expert Panel 1 (PC-EP1)—is centered on the theme Master Plan(ning) for Urban Water Bodies, serving as the first step in a sustained dialogue between planning theory and practice.
The first Planners' Circle focused on the following key questions, intended to provoke critical reflection and generate practice-informed insights:

1. Building on specific experiences of preparing Master Plans, in what ways did you find the components of a Master Plan (such as land use plan, DCRs) and their rationales inadequate to address protection and management of urban water bodies?
2. What possible ways of reimagining the instrument of the Master Plan can we consider for addressing this challenge? What kind of changes/ additions/reforms are needed in these components? Discuss using empirical examples and experiences. For example, water bodies drainage mapping to be included in Base Map preparation, drafting DCRs/ Byelaws for protection of water bodies, using instruments such as TDRs for restoring water bodies etc.
3. What kind of reworking of institutional organisation and cultures are needed? For e.g., multiplicity of institutions for development and regulation (corporations, parastatals, SPVs for say, river front development) – whether to supplement or constrain protection of water bodies?

03 | Distilled Insights

1. Master Plan is the sole statutory plan, but it is limited by its spatial nature. For it is conceived as a land use plan, Master Plan as it is structured and framed now can at best delineate and designate the critical areas/zones for water bodies. Development control regulations (DCRs) for these zones, incorporating existing laws, may help.

The Master Plan continues to function as the sole statutory instrument guiding urban planning in Indian cities. **However, its scope remains fundamentally limited by its spatial and land use-oriented structure.** Practitioners emphasized that while the Master Plan can identify and delineate critical areas such as water bodies, its current form does not allow for a more integrated or systemic consideration of environmental concerns. The statutory framing of the Master Plan assumes a fixed spatial rationality that restricts its ability to address emerging ecological challenges.

The Expert Panel -Planners Circle proceedings revealed that practitioners possess considerable experiential knowledge about the preparation and operationalization of Master Plans. This practical expertise could be crucial in reorienting the Master Plan toward water-centric urban planning. Yet, these experiences are often constrained by the inherited assumptions and structure of the instrument itself, which few are inclined to question or reconfigure. As a result, the potential for statutory planning to meaningfully engage with urban water bodies remains underutilized.

The discussion highlighted a growing realization among practitioners that deliberate and planned interventions for urban water bodies are urgently needed. In the absence of city-level/scale river management frameworks, the Master Plan- despite its limitations- could offer a viable platform for initiating such interventions. Water, being a spatially situated resource, can be addressed through the spatial tools that the Master Plan provides. **The National Mission for Clean Ganga (NMCG) has been advocating such a step to protect urban water bodies. Practitioners see promise in using zoning mechanisms and Development Control Regulations (DCRs) to define and regulate growth in sensitive river and floodplain zones.**

Recently, the traditional land-use focus of the Master Plan is being expanded to include futuristic implications of land-use, ushering in a shift away from conventional content. Revisiting the potential of the Master Plan to incorporate river centric planning through tools like zoning and DCRs or through an incorporation of existing laws may be needed. This might require a more flexible and creative use of the planning tools already embedded in the statutory framework.

2. Can urban planning prioritize water centric imaginations? Prioritizing water bodies may conflict with other important considerations of land development and economic growth.

The panel discussed the possibility and challenges of reimagining urban planning from a water-centric perspective. While there was broad agreement that urban water bodies need to be more centrally integrated into planning frameworks, participants also acknowledged that this shift may come into tension with other dominant priorities—particularly land development and economic growth. The reality in many Indian cities is that land is already overburdened with competing claims and interests, making it difficult to prioritize water bodies without triggering conflicts or trade-offs.

Practitioners pointed out that in the Indian context, urban planning must navigate a complex terrain marked by limited infrastructure for water supply, sanitation, and drainage, alongside a significant presence of informal settlements. These structural deficits make it harder to place water at the core of planning agendas. At the same time, the need for such an orientation is clear, as cities across India increasingly encounter crises linked to water scarcity, pollution, and flooding. Despite these constraints, the panel recognized that a water-centric planning paradigm is essential for building sustainable and resilient urban futures.

However, **it was also observed that such an approach requires institutional alignment and careful negotiation of priorities.** The panel discussed how land in urban and peri-urban India is a site of intense contestation, shaped by real estate interests, economic policies, and population pressures. As such, efforts to protect or restore water bodies through planning instruments must contend with broader political and economic forces. Acknowledging these challenges, participants suggested that while water-centric imaginations are desirable, they must be grounded in strategies that consider issues of equity, access, and competing land use pressures.

Perhaps one of the most crucial steps towards water centric urban planning in India is the Namami Gange Programme, which takes cognizance of systemic challenges faced by cities on the bank of the Ganga and recognises cities as part of the larger ecosystem. In this context, the NMCG has launched the River-City Alliance as a forum to engage with a river centric urban future of the Ganga basin states. A water-sensitive city framework for India might address questions of accessibility, equity and justice through the master plan.

3. Water-centric planning solutions must find a middle ground. Search for contextually driven middle ground between engineering and natural solutions for urban and river interface. The fickle forces of urbanization make extreme positions untenable.

Participants emphasized that water-centric urban planning must adopt a balanced, context-sensitive approach, particularly when addressing the complex interface between cities and their rivers. Given the fast-changing pressures of urbanization- City Planners face the inevitable need to expand infrastructure to respond to various pressures such as urban expansion, unanticipated migration, and challenges owing to economic growth. These requires expanding sewage networks and increase in capacity of the wastewater treatment plants. Increasing climate related vulnerabilities frequently contribute to urban

flooding in Indian cities with inadequate drainage facilities. The hard infrastructures that city managers deploy to tackle these issues, however, are often critiqued for their inability to respond to the changing urban dynamics. In this regard, the newer paradigms that are often recommended are a gradual shift towards soft infrastructure or nature-based solutions such as water-absorbent landscapes, water-absorbent tree pits, pervious pavement, gabions. However, the latter are not always contextualized based on the Indian scenario.

Given the fickle forces of urban development in India that encounters both competing and conflicting pressures, there is a need for critical engagement on arriving at the right mix of intervention for River Front Development. The Riverfront zones are crucial sought-after places in the city. The recent High-Level Committee on Urban Planning constituted by MoHUA elucidates the importance of River Front for its potential in economic value creation and addressing pollution - as has been illustrated in the case of Sabarmati River Front. Nonetheless, the choice between engineering solutions to develop the riverfront/ channelizing the river vis-à-vis allowing the river to flow in its natural state attracts significant debate from various actors.

Globally, instead of grey interventions, practitioners have begun advocating nature-based solutions/ hybrid of grey and blue green infrastructure to tackle a gamut of urban problems, the most visible being the urban flooding and flood plain protection. Yet, India's experience highlights that it requires a significant change in the urban planning regulation and other mechanisms to be able to mainstream and implement such tools in its urban areas. However, we can learn from existing experience that may be scaled up or provide a case to identify the various bottlenecks. Instances include Gurgaon, Coimbatore and Chennai which have inculcated a 'sponge' intervention to deal with waterlogging during heavy rains through active public-private collaborations.

In this context, therefore, it becomes crucial to identify contextual and tailored interventions on how to manage urban river stretches and catchment areas of water bodies. **Correspondingly, this also requires the statutory master plan to locate creative pathways and identify convergence between conservation and development while also engaging with engineering and nature-based solutions to develop the river-city interface.** Ultimately, participants agreed that the Master Plan must become a platform for negotiating convergence between conservation and development, offering a flexible toolkit that can evolve with changing urban and ecological realities.

4. Special Purpose Vehicles (SPVs) may be a manifestation of inadequacies of existing urban institutional structures and cultures. The flexibility to create SPVs is a worthy innovation for water body centric urban governance.

Panel members discussed the emergence of Special Purpose Vehicles (SPVs) as both a pragmatic tool and a response to institutional limitations in existing urban governance frameworks. They noted that SPVs can also facilitate the implementation of developmental project in the urban rivers inspite of absence of such provisions in the existing Master Plan. The SPV tool has also been used to minimise management challenges in implementing the Smart City Mission of MoHUA.

This flexibility is especially relevant for the development and management of urban river stretches, which require coordinated, long-term planning and execution - capabilities that existing municipal structures may lack.The Sabarmati Riverfront Development Project was highlighted as a significant example. Initially conceived outside the formal provisions of the Ahmedabad Master Plan, the project was later retrofitted into the city's planning framework. It was implemented through an SPV—Sabarmati Riverfront Development Corporation Limited (SRFDCL) - created by the Ahmedabad Municipal Corporation. This SPV operated on a Build, Maintain, Operate, and Transfer (BMOT) model, showing how municipalities can innovatively use such structures for managing complex waterbody-related development.

At the same time, participants acknowledged the tension between institutional innovation and democratic governance. SPVs, while effective, may bypass the participatory ethos envisioned under the 74th Constitutional Amendment, which sought to strengthen urban local bodies. Thus, the use of SPVs may signal institutional inadequacies or inefficiencies in existing planning cultures rather than being an entirely progressive tool. The panel emphasized that rethinking the role of existing institutions, alongside assessing the utility and accountability of SPVs, should be central to any reconfiguration of urban planning mechanisms for water governance.

5. Programmatic plans are distinctly different from the statutory Master Plan. The distinction with plans for smart city/sanitation is blurred. It leads to diluted policy discourse.

Panelists underscored the critical difference between programmatic plans and statutory Master Plans, emphasizing that this distinction is often blurred in practice. While the Master Plan is rooted in legal frameworks and defines spatial land use, programmatic plans are usually developed in response to specific sectoral challenges such as mobility, housing, or sanitation. However, in many Indian cities, both types of plans are developed in parallel without adequate coordination, leading to fragmented planning processes. The result is a proliferation of sectoral plans that exist in silos - overlapping with Master Plans but lacking formal integration- ultimately diluting the policy discourse around urban planning.

The panel pointed out that unless programmatic plans are brought into dialogue with the statutory Master Plan, they risk remaining ad-hoc and disconnected from long-term urban governance structures. This gap is acknowledged by policy institutions as well. For example, the URDPFI Guidelines (2015) emphasize the need for aligning sector-specific plans with the Master Plan to ensure coherence. Similarly, the NITI Aayog's 2021 report on urban planning reform calls for hierarchical linkages between programmatic plans and city-level Master Plans to achieve integrated and spatially sustainable outcomes.

Experts emphasized that as global challenges increasingly manifest at the local scale, the Master Plan must evolve to incorporate urgent programmatic concerns. By embedding the objectives of mobility, environment, and other sectoral agendas into its statutory framework, the Master Plan can move from a rigid spatial tool to a flexible platform for integrated urban transformation. This reimagining, they argued, is essential to achieve holistic and context-sensitive urban development in India.

6. River/water body focused projects are often ex-post interventions. Advanced technology tools (GIS/water-sensitive) can help accommodate these concerns ex-ante.

Panellists highlighted that many river or water body rejuvenation projects in India tend to be ex-post interventions, launched as reactive responses to degradation or encroachment rather than being integrated into proactive planning processes. These projects often operate outside the statutory Master Plan, with little or no reference to the city's broader land use vision. Simultaneously, Master Plans themselves have traditionally lacked robust accounting for urban water bodies, often failing to delineate catchments or integrate hydrological systems into their spatial frameworks. This disconnect results in a planning vacuum that leaves room only for piecemeal, project-driven responses after the fact.

To address this shortcoming, panellists emphasized the importance of technology-enabled planning tools, particularly GIS-based mapping systems. The Ministry of Housing and Urban Affairs (MoHUA) made a significant move in this direction with the 2016 launch of a sub-scheme under the AMRUT Mission to formulate GIS-based Master Plans. This approach, further supported by NITI Aayog's 2021 recommendations, encourages cities to create an interoperable base map that includes natural and built features - especially blue-green-grey infrastructure. These digital maps would allow planners to not only visualize existing ecosystems but also monitor changes over time.

Panellists saw this as a promising shift toward ex-ante water-sensitive planning, where real-time and historical spatial data can inform decisions about zoning, encroachment, and infrastructure development. GIS-based Master Plans, if implemented effectively, can help prevent haphazard construction near water bodies, by providing a dynamic monitoring tool that reflects ongoing changes. Such a system would allow planners to intervene early, preserving ecological functions while also regulating urban expansion. Ultimately, this integration of digital tools into Master Planning was seen as a crucial step toward embedding water governance into the statutory planning framework.

7. Urban river/water bodies may be treated as commons to search for governance alternatives. The alternatives may explore support from byelaws/DCRs.

Panellists agreed that the existing institutional frameworks for conserving urban water bodies in India have shown limited success. Despite a range of policies - such as the Urban Flood Management Guidelines of the National Disaster Management Authority, the National Building Code (2016), the Model Building Bye-Laws (2016), and the River Regulation Zone Notification - interventions have largely remained suggestive and non-binding. These guidelines primarily advocate non-interference with natural systems but lack effective enforcement mechanisms. Consequently, urban water bodies remain vulnerable to encroachment, degradation, and competing urban pressures. This underscores the need for alternative paradigms of urban water governance.

One such alternative discussed by the panel is to conceptualize urban rivers and water bodies as commons. Treating these as shared community resources encourages participatory governance models, moving beyond technocratic or state-led approaches. The example of Bangaluru's Lake rejuvenation initiatives was cited as a compelling case, where strong civil society involvement has facilitated both restoration and ongoing maintenance. This people-centric model, built on collective stewardship, illustrates the potential of community-based management systems in urban settings. Such proactive initiatives, maybe be given consideration to reimagine governance mechanism of urban water bodies under the framework of commons while exploring support from byelaws/DCRs.

8. Urban environmental risks including those associated with climate change are often extra territorial/jurisdictional. Requires ULBs to build enduring links with institutions beyond their jurisdictions and establish institutional processes to cope with the risks.

Panellists emphasized that environmental risks that urban areas face, including those associated with climate change are often extra territorial/jurisdictional. With increasing uncertainties brought by climate change, erratic rainfall has been flagged as triggers for flash floods and water logging in urban areas. Environmental events which overwhelm the existing urban governance structure to effectively respond are increasingly being recorded throughout urban centres across the country. Further, many vulnerabilities of the urban areas lie outside the jurisdiction of the institutions, so that in times of crisis, existing institutional structures fail to effectively mitigate such challenges. The Kerala floods of 2018-19 is a prominent example where dams located outside the jurisdictional urban boundary (both institutional and locational) impacted the urban areas for prolonged periods. Increasing flood risk in cities necessitate inter-state coordination in operation and maintenance of dam/reservoir and other allied infrastructure.

Given the environmental challenges of our times, it becomes important to ask how our city plans address such increasing risks. Extra-territorial externalities faced by urban areas and lack of institutional coordination acts as an impediment to manage the increasing risks that confronts urban areas. In this context, ULBs need to build enduring links with institutions beyond their jurisdictions and establish institutional processes to cope with the risks. According to NITI Aayog, urban local government bodies in India should invest in systematic knowledge management, according to experience from throughout the nation. The ULB should work toward institutionalizing the capability that is generated rather than relying exclusively on activities that focus on individual capacity.

9. Master Plan can supplement the efforts of river/water body specific institutions. Spatial planning elements can be creatively used to support aligning river/ water body governance institutions like Mithi River Development and Planning Authority.

Panellists discussed that there is a need to revisit various legal statutes for Development Authority vis a vis other special purpose authorities like Lake Protection/River Development Authorities in the urban areas along with their role in the conservation and management of crucial water bodies/river channels. Taking a look at the regulatory aspects of institutions is important now because there exist certain differentials in the regulatory powers of development authorities who prepare master plans and other allied entities that are specially constituted to conserve and manage critical water bodies/ river stretches, which have often led to unsatisfactory outcomes.

The East Kolkata Wetland Management Authority and Mithi River Development and Planning Authority are cases in point for their inadequate response in the management and protection of urban water bodies. Where, there should be a single institution for one single river/water body backed by a statute to avoid overlapping of responsibilities, allowing proper implementation and monitoring. Spatial planning elements can be creatively used to support aligning river/ water body governance institutions through the Master Plan instrument, thereby supplementing the efforts of river/water body specific institutions.

10. National Mission for Clean Ganga (NMCG) offers a repository of experiences for rejuvenating water bodies. With its role as a regulator and an implementor, NMCG's experiences can offer useful lessons for reimagining river/water body centric Master Planning.

The National Mission for Clean Ganga (NMCG) can serve as a useful template to unpack the challenges and convergence associated with the diverse institutional roles to manage urban rivers and water bodies. With its role as a regulator and an implementor, NMCG's experiences can offer useful lessons for reimagining river/water body centric Master Planning. The NMCG also offers a repository of experiences for rejuvenating water bodies.

11. Innovative application of Transferable Development Rights (TDR) kind of instruments can be limited. Weak real estate markets may impact the effectiveness of TDRs for water body protection.

In the backdrop of a rapidly urbanising India, the Transferable Development Rights (TDR) framework emerges as an innovative policy tool, particularly for raising revenue for Urban Local Bodies (ULBs). TDR has been used globally as a policy mechanism for land use management. One notable example is Curitiba, Brazil, where TDR supported the creation of a natural drainage system to protect the city from recurrent floods. In this case, TDR sending areas included riverbanks converted into parks to absorb overflow and the construction of lakes to contain floodwaters and prevent downstream flooding.

In India, TDR has found application in cities such as Mumbai, Hyderabad, Bengaluru, and Ahmedabad, primarily for slum rehabilitation, heritage conservation, public housing redevelopment projects, and in Hyderabad's case, lake conservation. In Hyderabad, TDR has been instrumental in protecting urban water bodies through the conservation of lakes and nalas, including the development of recreational green buffers around these ecosystems. In Chennai, the Chennai Metropolitan Development Authority (CMDA) has proposed a Green TDR to safeguard water bodies and eco-sensitive zones while also compensating landowners holding patta lands in areas demarcated as water bodies.

However, there are also concerns regarding how TDR mechanisms have, in some instances, exacerbated spatial inequalities, especially in Mumbai. In Hyderabad, challenges arise from development control regulations that impose height restrictions and a no Floor Space Index (FSI) policy, making it difficult for residents to sell their TDRs. When sales are possible, they often occur at exploitative discounts or under coercion by builders' cartels. There is also a general caution that unregulated pooling of TDRs could negatively impact the urban form, planning strategies, and quality of public spaces. Guidelines also suggest that TDR should be used carefully within a predefined spatial framework.

These experiences suggest that while TDR can be a promising instrument, its innovative application is often constrained. Barriers in development control regulations and weaker real estate markets—such as those in parts of the Ganga basin urbanisation context—limit the instrument's effectiveness, especially for water body protection. This is exemplified by Uttar Pradesh, where no TDR provision exists. Ultimately, the utility of TDR remains highly dependent on the specific urban spatial context in which it is implemented.

12. The usual buffer zones remain relevant as a Master planning tool to counter encroachment. Creative application of byelaws/DCRs/regulatory instruments can help.

The Indian experience highlights that while Master Plans typically impose buffers or statutory limits- such as 'No-Development Zones' - around water bodies, these have had limited effectiveness in conserving them. Encroachments continue to occur and are often further complicated by government-sanctioned developments. For instance, in Bengaluru, approvals have been granted to developments on encroached lakes without spot verification, reflecting systemic mismanagement and complicity within town planning processes. In Guwahati, constructions have continued despite court orders, such as in the case of the Sola Beel.

The justification for expanding built-up areas frequently comes from the reduction of forested or arid land, facilitating further encroachments. The Pallikaranai wetlands in Chennai have seen significant degradation due to the establishment of corridors and large corporate complexes. Similarly, in Mumbai, both legal and public encroachments have long affected the Mithi River, with infrastructure projects such as the construction of taxiways and airport expansions realigning the river's original course and altering its natural flow.

Planning guidelines have called for the differentiated categorisation of river stretches and identification of permissible activities to protect urban water bodies. These recommendations are also echoed in the National Water Policy (2012), which advocates for the strict regulation of urban settlements and upstream encroachments to avoid contamination, pollution, and disruption to the river's natural recharge. The GIS-based master plans under the AMRUT Mission offer the potential to provide temporal datasets that help identify and monitor encroachments more effectively. These tools could be critical in enforcing planning regulations and guiding sustainable development.
The Central Public Health and Environmental Engineering Organisation (CPHEEO) has emphasized that one way to deter encroachments is by ensuring public access and well-landscaped spaces along lakefronts. In Bangalore, such concerns have been strongly reflected in public responses to the draft of the Revised Master Plan 2031. Additionally, the River-Centric Urban Planning Guidelines recommend that Master Plans include Urban River Zoning regulations and designate the entire river corridor as a special planning zone.

The panel observed that while such examples collectively demonstrate that buffer zones remain an important tool, their effective enforcement is equally crucial. The creative application of byelaws, Development Control Regulations (DCRs), and other regulatory instruments can strengthen the conservation of urban water bodies and counter the ongoing threats of encroachment.

13. Evolving case law of urban river/water body protection can inform spatial planning. Master Planning related laws can be informed by cases such as the GO/111 in Telangana and Yamuna in Delhi.

The panel discussed that the National Water Framework Bill, 2016, aims to become a National Framework Law to realize the vision outlined in the National Water Policy of 2012. This would represent a significant step toward introducing statutory interventions to meet policy objectives. However, the enactment of this law remains uncertain due to complexities arising from India's federal water governance structure. Consequently, achieving a comprehensive national water framework law is still an ongoing challenge.

In this context, evolving case laws related to urban river and water body protection will need to play an important role in shaping spatial planning across the country. Judicial interventions have often been the primary recourse for environmentalists and concerned citizens seeking to safeguard urban water bodies. For example, the protection of Hyderabad's Himayat Sagar and Osman Sagar lakes—critical sources supplying over 30% of the city's water—has been the subject of multiple legal challenges spanning the Supreme Court, High Court, and National Green Tribunal since 1996. Recent government moves to scrap the GO-111, which provided protections for these lakes, have prompted environmental groups to appeal to the Supreme Court to reinstate the order. Similarly, the Yamuna River and other water bodies in Delhi have faced ongoing judicial scrutiny. In 2022, the Delhi High Court directed state authorities to prevent encroachments and maintain strict vigilance over water bodies following a petition raising concerns about encroachment on two water bodies in the capital.

The panel emphasized that master planning laws and regulations could be significantly informed by such judicial cases, including GO-111 in Telangana and the Yamuna interventions in Delhi, highlighting the critical role of legal frameworks in urban water governance.

14. Environmental protection laws must be sensitized to accommodate spatial planning scope and limitations. Urban planning and governance should be able to leverage the laws effectively.

The panel discussed how provisions for environmental protection rules and regulations are often inept to capture the spatial sensibilities associated with urban areas. For instance, although wetland/lake protection rules are in place, it is unable to respond effectively to the unique urban spatial dynamics. In such a case, spatial articulation of environmental regulations is required to be incorporated within the Master Plan for improved outcomes.

It was noted that Master Plans so far have had limited scope in embedding ecological sensibilities and emerging concerns such as climate change. The jurisdictional limits of Master Plans constrain their scale and impact in addressing environmental concerns comprehensively. **The scale, scope, and impact of the Master Plan to incorporate ecological sensibilities and account for risks requires renewed deliberation.** Environmental protection laws must be sensitized to accommodate spatial planning scope and limitations. Doing so would enable urban planning and governance frameworks to leverage these laws more effectively and ensure improved environmental outcomes within urban contexts.

04 | Annexure: Concept Note

Planners' Circle is a forum conceived to draw on expert planners' experiential wisdom about reimagining the structure and the rationalities of the statutory Master Plan instrument for better planning and governance of urban water bodies in Indian cities.

Master Plan is the sole statutory instrument for promoting and regulating urban growth in India. The concept, configuration, rationalities of, and the institutional structures surrounding the instrument are conceived by legislations drafted before 1970s – by states, per the federal organization of powers. In contrast, India's environmental renaissance began after the Stockholm Conference in 1972 - when the Government of India enacted the Water Act 1974, to control and prevent water pollution. While this is a central legislation primarily focused on industrial pollution, the legal and institutional frame of Master Plan remained unchanged with its archaic conceptions for planning and governing urban growth in India. On the other hand, India's urban growth confronts newer challenges: degeneration of water bodies and their ecosystems, urban floods, groundwater depletion, climate change linked risks, and so on. Despite the growing awareness and enhanced efforts by the state institutions as well as the civic society, urban environmental management remains a challenge. For a NMCG supported research project, TREADS@ CPR seeks to critically engage with the instrument of Master Plan to revisit the idea of statutory spatial planning for environmental management. We are conscious of the ambitious nature of this goal; hence a beginning with urban water bodies. We want to convene Planners' Circle periodically, where we will have a roundtable of expert planners (with experience of preparing statutory Master Plans) engaging in free-flowing conversations over a set of questions below. No presentations are expected.

QUESTIONS TO DEBATE

1. Building on specific experiences of preparing Master Plans, in what ways did you find the components of a Master Plan (such as land use plan, DCRs) and their rationalities inadequate to address protection and management of urban water bodies?

2. What possible ways of reimagining the instrument of Master Plan can we consider for addressing this challenge? What kind of changes/ additions/reforms are needed in these components? Discuss using empirical examples and experiences. For example, water bodies drainage mapping to be included in Base Map preparation, drafting DCRs/Byelaws for protection of water bodies, using instruments such as TDRs for restoring water bodies etc.

3. What kind of reworking of institutional organization and cultures are needed? For e.g., multiplicity of institutions for development and regulation (corporations, parastatals, SPVs for say, river front development) – whether supplement or constrain protection of water bodies

05 | Annexure: Key Insights

1. Master Plan is the sole statutory plan, but it is limited by its spatial nature. For it is conceived as a land use plan, Master Plan can at best delineate and designate the critical areas/zones for water bodies. Development control regulations (DCRs) for these zones, incorporating existing laws, may help.

2. Can urban planning prioritise water centric imaginations? Prioritizing water bodies may conflict with other important considerations of land development and economic growth.

3. Water-centric planning solutions must find a middle ground. Search for contextually driven middle ground between engineering and natural solutions for urban and river interface. The fickle forces of urbanization make extreme positions untenable.

4. Special Purpose Vehicles (SPVs) may be a manifestation of inadequacies of existing urban institutional structures and cultures. The flexibility to create SPVs is a worthy innovation for water body centric urban governance.

5. Programmatic plans are distinctly different from the statutory Master Plan. The distinction with plans for smart city/sanitation is blurred. It leads to diluted policy discourse. EXPERT PANEL1 JUNE 2, 2023

6. River/water body focused projects are often ex-post interventions. Advanced technology tools (GIS/water-sensitive) can help accommodate these concerns ex-ante.

7. Urban river/water bodies may be treated as commons to search for governance alternatives. The alternatives may explore support from byelaws/DCRs.

8. Urban environmental risks including those associated with climate change are often extra-territorial/jurisdictional. Requires ULBs to build enduring links with institutions beyond their jurisdictions and establish institutional processes to cope with the risks. 9. Master Plan can supplement the efforts of river/water body specific institutions. Spatial planning elements can be creatively used to support aligning river/ water body governance institutions like Mithi River Development Authority.

10. National Mission for Clean Ganga (NMCG) offers a repository of experiences for rejuvenating water bodies. With its role as a regulator and an implementor, NMCG's experiences can offer useful lessons for reimagining river/water body centric Master Planning.

11. Innovative application of Transferable Development Rights (TDR) kind of instruments can be limited. Weak real estate markets may impact the effectiveness of TDRs for water body protection.

12. The usual buffer zones remain relevant. Buffer zones need not be 'No Development' zones. Creative application of byelaws/DCRs/regulatory instruments can help.

13. Evolving case law of urban river/water body protection can inform spatial planning. Master Planning related laws can be informed by cases such as the GO/111 in Telangana and Yamuna in Delhi.

14. Environmental protection laws must be sensitized to accommodate spatial planning scope and limitations. Urban planning and governance should be able to leverage the laws effectively. Disclaimer: These are insights gathered from expert consultations and do not necessarily reflect our position. These will inform our research.

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