

Collaborative Governance Framework for Urban River Management

G. A. Kumar¹, D. Joshi², S. Chakraborty³, A. Dubey⁴

¹ National Mission for Clean Ganga, Government of India, 1st Floor, Major Dhyanchand National Stadium, New Delhi, India
(Email: dg@nmcg.nic.in)

² National Mission for Clean Ganga, Government of India, 1st Floor, Major Dhyanchand National Stadium, New Delhi, India
(Email: dheeraj.joshi86@gov.in)

³ National Mission for Clean Ganga, Government of India, 1st Floor, Major Dhyanchand National Stadium, New Delhi, India
(Email: sumitchakraborty99in@gmail.com)

⁴ National Mission for Clean Ganga, Government of India, 1st Floor, Major Dhyanchand National Stadium, New Delhi, India
(Email: akd.nmcg@gmail.com)

Introduction

River plays an important role in the formation, origin and development of a city. However, rivers and water bodies – the lifelines of urban areas are faced with complex challenges resulting from unprecedented urbanization. The situation is likely to be further aggravated due to the impacts of climate change. Therefore, improved governance of urban rivers is a key focus for sustainable river management. Hyden et al., (2004:16) outline that governance refers to the creation and maintenance of a system of rules that govern the public arena and thus regulate how state, civil society, and market-based actors relate to and interact with each other. Ansell and Gash (2008) further define collaborative governance as “a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets.” They highlight that the demand for collaborative governance has augmented due to the distribution of specialised knowledge and the intense interdependence of institutions, in an information age.

Collaborative governance systems are typically unique nationally and more specifically regionally, due to the myriad intricacies of internal relationships and perhaps most importantly, the level of citizen engagement. This can range from being informed to being fully empowered, depending upon the ladder of participation. The key to collaboration is alignment of stakeholder perspectives (Gray 2004).

Collaborative Water Governance & Global Scenarios

The key challenges of urban rivers - pollution, solid waste, sewerage, encroachments etc. primarily result from weak cross-sectoral governance of urban rivers. Collaborative governance approaches, considering environmental, legal, and social concerns may provide the way forward in addressing urban river challenges (Olsson and Head 2015). In the face of these mounting challenges, exacerbated by climate change and rapid population growth, a shift from traditional governance to that of collaborative governance structures may be necessitated for the purpose of achieving optimum outcomes in the domain of urban river management.

Significant studies and reports underline examples of collaboration and stakeholder engagement mechanisms around the world, aimed at improving river health and wellbeing in a sustainable manner. The Murray–Darling Basin in Australia (MDBA, 2017) is a key example where the principles of collaboration and stakeholder engagement were utilized to improve ecological health and over allocation, generating key benefits such as cost saving, effective implementation, and stakeholder collaboration. In this regard, the examples of the Mekong River Commission & the Nile Basin Initiative are highlighted below:

1. **Mekong River Commission (MRC): Thailand, Lao PDR, Cambodia, and Vietnam with Upper Mekong partners China & Myanmar as observers:** The Lower Mekong River Basin is home to 60 million people. The basin is rich in biodiversity and the entire population on the flood plains are dependent on them for livelihood and economic sustainability. The MRC is an example of inter country collaborative governance mechanism which demonstrates regional administrative cohesiveness. Some of the aspects which were addressed through collaborative action is summarised below:

Key Outcomes	Collaborative actions undertaken
Optimizing sustainable development and cost benefit sharing	Regional strategy for flood and hydro power management
	Regional masterplan for basin development with focus on the following: <ul style="list-style-type: none"> • Climate change – Adaptation and mitigation plans • Livelihoods – Fisheries and agriculture
Strengthen protection of mutually agreed environmental assets along the flood plains at the intersection of international boundaries	Basin-wide strategy for the protection, development, and management of the selected environmental assets across all the participating countries
	Creation and mandating of an inter country criteria for assessment, protection and rejuvenation of functional assets, selection of ecologically sensitive biodiversity zones/sites.
Strengthen basin-wide procedures & national implementation capacity across all the participating countries	Review institutional structures and suggest harmonizing measures for homogenization of capacity of the National Mekong Committees of participating countries, and implement support measures tailored to each country's needs and aspirations
	Enhance and strengthen capacity in decentralised cores of river basin management functions across all river management authorities of the participating countries
	Periodic review and update of the MRBP procedures and associated technical guidelines and implement agreed improvement measures
Enhanced information sharing and management of inter country communication and development of relevant tools	Harmonised and homogenised methods, models, tools and databases for monitoring, assessment, and subsequent dissemination purposes
	Improving and establishing regional flood and flash flood forecasting systems
	Establishment of regional emergency communication network for flood and drought management with focus on disaster response
Reduction of knowledge gaps for selected subjects focussing on the ease of access of common transboundary flood plain themes	Conducting studies and surveys for the undermentioned topics across the participating nations: <ul style="list-style-type: none"> • Fish ecology • Rural livelihoods • Transboundary impacts of climate change • Increased storage for flood and drought management • Use of surface and groundwater

2. **Nile Basin Initiative (NBI): Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, The Sudan, Tanzania and Uganda, with Eritrea as an observer:** The Nile Basin covers an estimated 10% of Africa's land mass, encompassing livelihoods for over 200 million people. The Nile river is shared by 10 countries, (namely), each with different needs and priorities, but also with common challenges – increasing demand for water, environmental degradation, recurrent flooding, droughts, and energy insecurity. The key actions undertaken based on NBI's collaborative governance principles are highlighted below:

Key Outcomes	Collaborative actions undertaken
Increased communication, trust, involvement and cooperation among NB governments and populations	Sharing of joint forecasting of flooding during rainy season, which indirectly benefits 1.7 million people in urban and rural flood-prone communities.
	Nile Ministers are now routinely approving water resources management and development projects prepared by the NBI, demonstrating cooperative planning of projects of regional significance – and instilling norms that lead to achieving economies of scale, harnessing synergies, and enhancing regional peace and security.
Enhanced basin-wide capabilities and capacities based on best practices, on trans boundary investments in the Nile Basin	Institutional and human resources capacity building through on-the-job and targeted training as well as study tours and exchange visits
	Capacity building on environmental management, power trade, water policy, knowledge management, efficient water usage for agricultural production, water quality monitoring, negotiations, communications, etc.
Increased cooperative action in power development and trade, agriculture and natural resource management and development	NBI with its regional intergovernmental nature & political will plays a critical role in responding to member's demands toward facing energy security challenges.
	A basin-wide power development strategy developed by NBI allows for greater efficiencies in the utilization of shared resources, and sustains regional dialogue and trust amongst Nile riparians and citizens
	Power infrastructure development and establishment of a competitive electricity market, central to sustainable socioeconomic development and transformation of the Nile Region into a vibrant green economy
Enhance efficient agricultural water use with focus on food security	Collaboration within NBI member states to address the food security challenge through promoting a basin wide approach to irrigated agriculture and support member states to ensure that their irrigation plans are regionally optimized and fit within the available water resources in the basin.
	NBI support to member countries to enhance efficient irrigation development as well as productivity of degraded watersheds.
Protect, restore and promote sustainable use of water related ecosystems across the basin	Promoting sustainable management of wetlands of transboundary significance
	Maintaining lake and riverine ecosystems
Improve basin resilience to climate change impacts	Improving and promoting regional policy and planning frameworks for effective climate change adaptation at regional and national levels
	Improving preparedness of basin countries to flood and drought risk

The MRC & NBI case studies highlight the impact of international collaborative governance in addressing challenging subjects related to disputes and conflicts over the control and use of river waters; extreme

poverty, urbanization, food security, droughts & floods, environmental degradation, inadequate sanitary services, water scarcity and most significantly - the joint cooperation on shared resources.

Namami Gange and Rejuvenation of Urban Rivers

The Constitution of India allocates the responsibility of water resources development and management with individual states. Cronin et al. (2016) highlight that “*water governance in India and other developing nations are facing significant challenges due to myriad set of reasons such as inadequate institutional performance, duplication of roles, unclear policies, and lack of water-related expertise of urban local bodies (ULBs) and other stakeholders*” at the operations and tactical level. The water governance in India is decentralized at the federal level, wherein the Government of India is responsible for development of programmes and the states are in charge of implementation and operation of key programs and projects.

The Government of India is working in close coordination with state governments to realize the Sustainable Development Goals (SDGs) by the target date of 2030. The SDGs include a water and sanitation-related goal called Sustainable Development Goal 6 (SDG 6). Several of the Indian government’s initiatives can be directly linked to SDG 6. These initiatives include the Water Framework Law of India 2016, Swachh Bharat Mission (SBM), Jal Jeevan Mission (JJM), Namami Gange (National Mission for Clean Ganga), and National Water Policy. With regard to water governance, the SDGs necessitate a shift towards multi-stakeholder and inter-ministerial approaches, as well as integrated information systems.

Namami Gange (the National Mission for Clean Ganga - NMCG) is one of the largest river rejuvenation programs aimed at ensuring effective abatement of pollution and rejuvenation of the Ganga basin by adopting an integrated river basin approach and promoting inter-sectoral coordination for comprehensive planning and management. The Namami Gange Mission recognizes that integrated river basin management needs to be interwoven with economic growth and urban transformation. Efforts have therefore been made to engage city governments in this collective responsibility of river rejuvenation and economical gains with the stretch of river flowing through or near their boundaries. This is in alignment with the Hon’ble Prime Minister of India’s clarion call for “*need for new thinking for river cities. Cities should be responsible for rejuvenating their rivers. It has to be done not just with the regulatory mindset but also with developmental and facilitatory outlook*”.

The River Cities Alliance – An example of Collaborative Governance

The contemporary challenges for rejuvenation of urban rivers involves complex contextualized solutions (urban sewerage infrastructure, industrial effluent management, SWM etc.), multiple stakeholders (ULBs, State Departments and Ministries/ agencies/ regulatory authorities at the national level) and wide-ranging implementation models (BOT, DBFOT, Hybrid Annuity based PPP Model etc). Collaborative governance is therefore a preferred approach globally, to attain SDGs through integration of diverse interests and perspectives. Collaboration between urban areas which share a common river or within state boundaries is therefore vital to understand and overcome common challenges.

In this regard, the River Cities Alliance (RCA) was launched on 25th November 2021, as a dedicated platform for river cities in India to ideate, discuss and exchange information for sustainable management of urban rivers. RCA is a striking example of collaborative governance among central, state and city governments, with the objective of undertaking sustainable management of urban rivers. It is platform where Ministry of Jal Shakti (MoJS), Department of Water Resources, River Development and Ganga Rejuvenation, represented by NMCG and Ministry of Housing and Urban Affairs (MoHUA) represented by the Nation Institute of Urban Affairs (NIUA) at the central level collaborate to form the Secretariat, which works in close coordination with the respective states and their urban local bodies (ULBs). Within one and

half year of its launch, the number of Alliance member cities increased from 31 to 143 across the country, including the international city of Aarhus from Denmark.

To attain the global target of Sustainable Development Goals (SDGs), NMCG's New Urban Agenda leads the roadmap for RCA through development of 10 River Development Goals (RDGs). RDGs being categorized on three broad elements of *Environmental, Economic* and *Social*. The 10 RDGs are highlighted below:

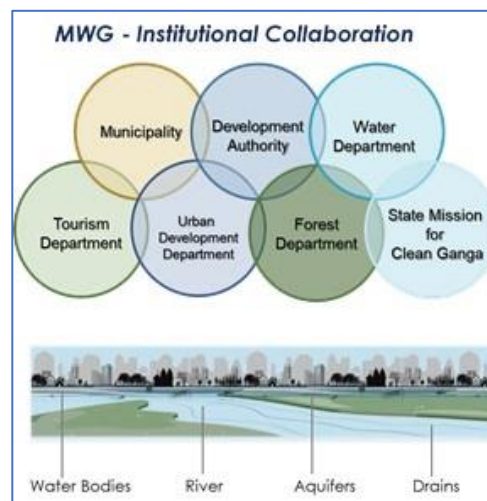
1. **To ensure effective regulation of activities in floodplain** - This has direct connotations with the targets of SDG 11.3 related to city planning and resilient cities. It is important that cities are cognizant of this fact and ensure that only river compatible activities are allowed in the floodplain.
2. **To keep the river free from pollution** - Healthy rivers are paramount for sustainable cities. Cities will need to adopt a range of engineering, regulatory, legal, economic, and social interventions to achieve this objective.
3. **To rejuvenate waterbodies and wetlands in the city** – This is intended to facilitate groundwater recharge, treating wastewater naturally, enhancing riverine biodiversity, and influencing microclimate, among others, while at the same time reviving the connection between people and the natural environment.
4. **To enhance the riparian buffer along riverbanks** – This enhances a city's resilience by protecting it from fluvial floods, while also protecting the river banks from erosion and other harmful activities in the city.
5. **To adopt increased reuse of treated wastewater** - Increased reuse of treated wastewater for activities such as agriculture, toilet flushing, road cleaning etc. will help in reducing the stress on rivers.
6. **To ensure maximum good quality return flow from the city into the river** - Maximising the return flows in form of storm water and treated wastewater after duly budgeting demand for various purposes within the city, will contribute to the environmental flow of rivers, especially in non-perennial watersheds.
7. **To develop eco-friendly riverfront projects** - Developing eco-friendly riverfront projects like biodiversity parks, nature trails, constructed wetlands, etc. will not only provide environmental benefits for citizens but also contribute to sustaining bio-diversity along river banks.
8. **To leverage on the economic potential of the river** – Explore the range of riverine ecosystem services and livelihood support through various interventions such as navigation, agriculture, fishery, water sports, river cruises and floating markets etc.
9. **To inculcate river-sensitive behaviour among citizens** – Enhance citizen support to sustainably manage riverine systems
10. **To engage citizens in river management activities** - Ensure that urban river management in a city is a participatory process, leading to community ownership and pride.

To accomplish the above RDGs, two-pronged approach has been adopted through envisaging a governance mechanism and a cutting-edge tool for driving RCA as a city led movement in promulgating river centric development and river sensitive planning.

Governance Mechanism: The RCA initiative kick started the beginning of the National Mission for Clean Ganga's (NMCG's) 'New Urban Agenda', wherein river cities own and implement the river-sensitive development and economic rejuvenation, through collaborative learning, while at the same time inspire others to take up progressive action on this front. The operationalization of NMCG's 'New Urban Agenda' has been actualized through the medium of collaborative governance, wherein partnerships are institutionalized at each city level for development of 'Multi-stakeholder Working Groups (MWGs)'. The

MWGs comprise of representatives from the ULB, state government departments, parastatal agencies, civil society and the private sector. The MWGs of each RCA member city are provided regular technical and capacity building support from NMCG and key national partners such as NIUA in this collective responsibility of river rejuvenation and economic transformation.

Cutting Edge Tool: Central to the ‘New Urban Agenda’, is the development of Urban River Management Plans (URMPs) for river cities. The URMPs are essential documents serving as the vision documents for the identified river cities. The URMP comprises of 3 key elements – Environmental (River to support a habitat for biodiversity to thrive), Economic (River to provide opportunities for economic development) and Social (River to be celebrated among citizens) which together propose 10 RDGs.



Both MWGs and URMPs are intertwined with each other and work towards collaborative governance which help river cities systematically and holistically plan interventions required to revive and maintain rivers in a sustainable manner.

To accomplish the above RDGs, RCA has been envisaged as a city-led movement for promulgating river-sensitive planning, conservation of water and existing water-bodies. Hence, the agenda and operations for RCA are determined by the member cities. The activities being undertaken are in three broad areas:

1. **Networking:** Organizing annual river summit; facilitating exchange of official visits for member cities; twinning of cities and rivers and publishing a bi-monthly newsletter
2. **Capacity Building:** The RCA member cities are provided expert-led offsite/ virtual trainings on water management; ground water, rainwater harvesting, wetland, drains, lakes, etc. Additionally, certification training programmes for officials of member cities have also been developed for improving capacity building at State & City levels.
3. **Technical & Knowledge Support:** River-sensitive urban planning and interventions; Innovations in urban river management; river linked economy and rejuvenation of urban water bodies, decentralized storage of rainwater through national initiatives such as “Catch The Rain” Campaign, safe reuse of treated water and decentralized sanitation systems.

Envisaged Impact of RCA’s Collaborative Governance

Moving forward, the RCA strives to on board additional national & international cities to provide an international platform to promulgate knowledge exchange, peer learning & partnership. The RCA, through a collaborative mechanism envisages development of URMPs for member cities, to facilitate progressive action for urban river management in their cities. This will support member cities in accelerating implementation of key SDGs and realization of overarching commitments at the national level:

- a) **SDG 6:** A key component of the peer learning initiative is its focus on pollution abatement of rivers, restoration of riverine ecosystem, adoption of circular water economy approach and building capacity initiatives of city governments & concerned stakeholders. Under RCA, several niche online certification programmes on river management have been launched.
- b) **SDG 11:** The primary objective of the RCA is to support member cities in sustainable management of urban rivers, in order to build river sensitive cities of future. RCA was launched with the vision of

developing river sensitive cities for the future. The city of Kanpur in Uttar Pradesh became the first Indian city to develop its own unique URMP

- c) SDG 14: Sustainable adoption of URMP components will enable cities to ensure sustenance of life. For instance, RCA will augment existing efforts of Namami Gange Mission which have led to significant improvement of biodiversity sightings such as Dolphins, Hilsa, etc.
- d) SDG 15: A key component of the river sensitive cities is to rebuild green cover. This directly supports restoration of riverine ecosystem and life on land. In Ganga Basin, over 30,000Ha has been afforested under the Mission
- e) SDG 17: Central to RCA is partnership with local, national & international organizations & stakeholders. RCA is actively collaborating with countries such as Germany, Denmark, Netherlands, etc. for inclusion of international river cities as members. At present, RCA has 1 international member city – Aarhus, Denmark and efforts are underway to associate additional international cities and enable cross-city learnings.

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