Policy Brief
on
"The Future of River Management"

01 May 2020

Exploring how the COVID-19 crisis can help shape river management strategies of the future

Preamble

On 1 May 2020, the *National Institute of Urban Affairs, NIUA*, (autonomous body under India's *Ministry of Housing and Urban Affairs*) and the *National Mission for Clean Ganga, NMCG*, (under India's *Ministry of Jal Shakti*) organized an Ideathon on "***The Future of River Management***". The purpose of this Ideathon was to use the current COVID-19 crisis as a backdrop to brainstorm on the river management lessons that the crisis has taught us and the strategies that river management in the future should focus on.

The Ideathon is part of a project that NIUA and NMCG are carrying out that seeks to promulgate river-sensitive development in our cities. The project has several notable features.

It has developed a **generic framework for urban river management** that river cities can use to develop their own city-specific river management plans. To begin with, the framework, which is first of its kind in the world, will be adopted by 97 cities along the main stem of the Ganga River.

It has developed a **guidance document** for city officials and planners **to help mainstream river thinking into a city's Master Plan**. The document provides comprehensive guidance on the application of different planning tools and instruments to enhance the value of the river for a city.

In association with the Town and Country Planning Organization (TCPO), it is developing a document that **recommends specific norms, standards, and regulations within the river zones of cities**.

The Ideathon featured short talks by eminent experts from around the world under five different themes. The event was moderated by NIUA. It also attempted to capture the audience perspective on some pertinent river management issues through audience polls conducted at regular intervals.

This policy brief is a succinct collection of the ideas discussed under each of identified themes. The brief is expected to provide useful insights to basin managers, government agencies, engineers, planners, researchers, and students for creating avenues to strengthen river management in the future.

Addressing the COVID-19 crisis has been a challenge for countries across the globe. While the general narrative around this crisis has been that of gloom and despair, the crisis has also led to some positive developments. One of these is the visible improvement in the natural environment. Rivers have become clean. The air has become fresher. There has been a significant drop in greenhouse gases emissions. Animals and birds are returning to their original habitats. Purely from a river management point of view, in India there has been a marked improvement in the water quality of the Ganga and Yamuna (major rivers in India) in the last few weeks. Similar results were reported in most rivers of Southern China. Venice's (in) famously polluted canals have become clearer as tourists stay away. For the first time in recent history, dolphins are back in the waterways of Italy as navigation has stopped.

There is no doubt that things will change (perhaps for the worse) again once the crisis is over. The question is how much will change. Are we looking at a business as usual scenario? Or is there something we can do to control the magnitude of this change?

The purpose of this Ideathon was to deliberate on these key questions, and several others. It used the COVID-19 crisis as a backdrop to do some blue sky thinking for river management as we step out of this crisis.

Attendance Statistics

A total of 400 people from 14 countries participated in the event, although the bulk of the attendees were from India. Participating countries include Denmark, Germany, Indonesia, India, Japan, Kenya, Netherlands, Nepal, Nigeria, Singapore, Sri Lanka, Syria, Thailand, and United Kingdom.

400 attendees
from 14 countries

Discussion themes for the Ideathon

The Ideathon focused on five diverse themes

ROBUST PLANNING

This theme touched upon on the role of cities in river management. Cities are, often, the main cause of the many negative impacts on rivers. How can we plan our cities to minimize these impacts?

CHERISHING BIODIVERSITY

The biodiversity element has now started to been considered in the overall river management. However, in many places, this is still a peripheral aspect. How can we bring this to the mainstream?

STEPPED-UP STAKEHOLDER ENGAGEMENT

An often-neglected component of river management, the need for effective stakeholder engagement is increasingly becoming evident. Going forward, how do we step up our efforts in this direction?

ADAPTIVE GOVERNANCE

The current river governance systems across the world are mostly rigid in their structure and approach. It takes a while for the system to adapt to a new normal. How can we make these systems more flexible and responsive to emerging needs?

FUTURE PROOFING

Wherever possible, it's always best to anticipate future drivers that may have an impact on river management? Which are these drivers that cities, governments, and countries should be aware of? How do we go about addressing these?

Speakers

Mr. Rajiv Ranjan Mishra
Director General, National Mission for Clean Ganga,
Ministry of Jalshakti, INDIA

Mr. Mishra heads India's National Mission for Clean Ganga (NMCG). NMCG is an ambitious flagship initiative launched by the Indian government with projects worth USD 3.73 Billion for effective abatement of pollution, conservation, and rejuvenation of the River Ganges and its tributaries. A big advocate of cross-sectoral coordination, he has been largely responsible for shaping the softer approaches for river management in the basin, in addition to the traditional engineering solutions. An officer of the prestigious Indian Administrative Services, Mr. Mishra has held top management positions in India's Ministry of Housing and Urban Affairs; Ministry of Environment, Forests and Climate Change; and the former Ministry of Water Resources, River Development and Ganga Rejuvenation giving him the unique advantage of multi-perspective understanding of river management from a governance point of view.

Mr. Michael Affeldt
Director, Los Angeles Riverworks,
Office of Mayor Garceti, USA

Mr. Affeldt is the Director of the LA River Works team in Mayor Eric Garcetti's Office of City Services. LA River Works leads project coordination, policy development, and engagement, for the Los Angeles River Revitalization Master Plan and LA River-related efforts. Michael has played a significant role in the development and adoption of the federal Los Angeles River Ecosystem Restoration Recommended Plan, the purchase of the Taylor Yard G2 parcel, and development of the in-process LARiverWay path and greenway network. Michael began his career with the City of Los Angeles in 2005 and holds a Civil and Environmental Engineering degree from the University of Michigan, USA.

Dr. Peter King
Senior Policy Advisor,
Institute for Global Environment Strategies, THAILAND

Following work for ADB as a consultant in 1984-88, Dr. Peter King started work with the ADB in March 1991 as an Environment Specialist in the Office of Environment. He established a sound reputation as ADB's leading natural resources management expert, with responsibility for over 50 Loan and TA projects. In 1998, he was awarded a Doctor of Philosophy (Environmental Science) degree from Murdoch University in Perth, with a thesis titled "Integrated Economic and Environmental Planning at the Subnational Level in Asia." In 2005, he took early retirement from ADB and is currently a Senior Policy Advisor for the Institute of Global Environmental Strategies in Bangkok, heads the Asian Environmental Compliance and Enforcement Network secretariat, is a member of the Climate Change Asia Coordination Group, was Team Leader, Adaptation Project Preparation and Finance on the USAID Adapt Asia-Pacific project, and is a Coordinating Lead Author for the Global Environment Outlook reports published by UN Environment.

Dr. Chris Dickens
Principal Researcher (Ecosystems),
International Water Management Institute, SRI LANKA

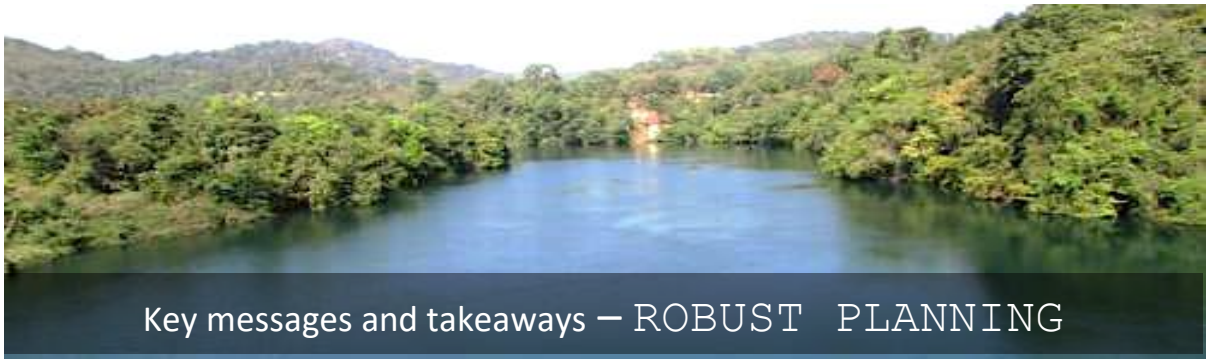
Dr. Dickens is an aquatic ecologist with 33 years' experience working in aquatic ecosystem health, water resource protection, and water resource management and governance. During his career he has worked in the water management industry and for national and international water research agencies. He has carried out a wide range of projects during this time. Most recently he was lead author for the UN for the indicator method for the SDG Target 6.6 on water-related ecosystems and has also guided the FAO to include environmental flows into SDG Indicator 6.4.2. Besides this he has done work on environmental water requirements or E-flows for rivers including the Nile, Inner Niger Delta, rivers in Lesotho, Tanzania, Kenya and in his home country South Africa. He has drafted National policy for determination of Resource Quality Objectives and also for management of environmental flows. He has a long history in river health management having designed both methods and monitoring programmes for various countries. He has also worked on various projects considering IWRM (integrated water resources management) and INRM (integrated natural resources management) in Africa as a whole.

Dr. Alex Smajgl
Managing Director,
Mekong Futures Research Institute, THAILAND
Sustainable Futures Institute, AUSTRALIA

Dr. Smajgl's background is in environmental economics, specializing in trans-disciplinary modelling in the context of natural resource management, development, urbanisation and climate change systems. His work is centred on natural resource management involving highly participatory policy and planning approaches to effectively bridge research and policy. His project work involves the assessment of sustainable development and climate adaptation strategies, based on advanced integrated assessment modelling. The water-food-energy Nexus and the implementation of Sustainable Development Goals have been highly relevant for his policy focused work. Prior to this position he worked for 12 years for CSIRO, largely on sustainability-focused projects in Asia.

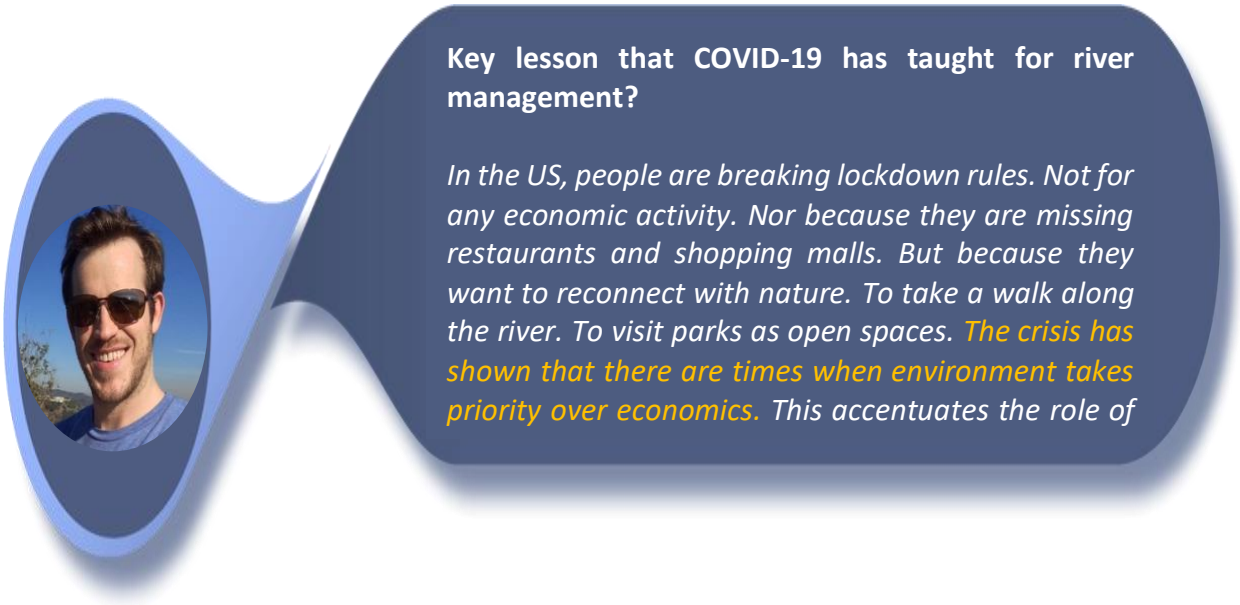
MODERATOR
Dr. Victor R. Shinde
Sector Coordinator (Water and Environment)
National Institute of Urban Affairs (NIUA), INDIA

Dr. Shinde's areas of expertise include urban environmental management; integrated water resources management; water security enhancement; climate change adaptation in water sector; flood risk assessment; and M&E frameworks for water and environmental sector. He is currently leading a project carried out in association with India's National Mission for Clean Ganga that seeks to promulgate river sensitive development in Indian cities. The project has developed a framework for urban river management (first of its kind in the world), encompassing multiple dimensions, that river cities in India shall use to manage the rivers within their stretches. Prior to joining NIUA, Dr. Shinde worked at the Asian Institute of Technology, Thailand where he developed a framework for assessing the health of rivers in Thailand. He has 17+ years of experience as a scientist and technical expert in nine countries in Asia and Africa.



Key messages and takeaways – ROBUST PLANNING

The theme "robust planning" focused on the symbiotic relationship between cities and rivers, and the means to enhance this through sound planning practices. It used the example of Los Angeles (LA) River as a backdrop to discuss ideas about the contemporary planning principles and strategies for river management that cities should begin to contemplate on.



1. Cities all over the world are beginning to realize the importance of adopting a '**nature first**' approach in planning. This is a huge factor in determining the livability of a city. River cities are special. Such cities must look to leverage on the inherent features of rivers, and its associated elements, to augment the quality of living for its residents.

2. City planning should look to embrace the river, and enhance its outlook as a socio-natural interface. Rivers connect residents with nature, and planning must seek to reinforce this connect through various instruments. This will, however, require maintaining an optimal balance between development and conservation.

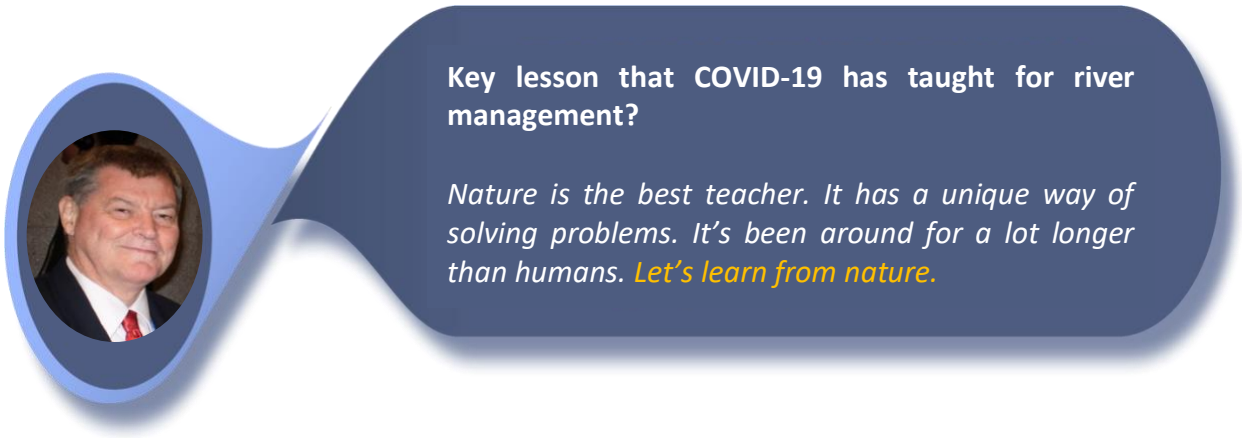
3. The LA River is heavily channelized. This was done in mid 1900s as a flood control measure. Through its LA River Revitalization Plan, the city has shown that it is possible to 'de-channelize' and restore rivers back to natural forms to a large extent. All it takes is intent and a worthy vision.

4. Going forward, the LA experience of revitalizing the river can serve as a useful reference to other cities in the world to scale up naturalization of the rivers within their stretches. The LA River Revitalization Plan is based on four core principles:
   - ***Revitalize the river***: The Plan seeks the re-creation of a continuous riparian habitat corridor within the channel, and through removal of the concrete walls where feasible. Because flood control is a big issue in LA, this re-creation is planned in increments with provisions for storing peak flows to reduce flow velocities in the channel.
   - ***Green the neighbourhoods***: The Plan seeks to create a green ribbon through the city, with green strands extending the river's influence into adjacent neighbourhoods in order to reconnect communities to the river and to each other. A continuous river greenway would link a reliable network of "green connections," bikeways, and pedestrian paths to the River and to public open space; "repurposing" schoolyards, vacant lots and educational campuses could help serve open space and recreation needs, as well as hold and clean storm water.
   - ***Capture community opportunities***: The Plan endeavours to provide the people of Los Angeles with the opportunity to enjoy the river as a safe, accessible, healthy, sustainable, and celebrated place. It targets brownfields for redevelopment, offering opportunities for non-vehicular commuting, and encouraging the creation of new recreational spaces for people of all ages.
   - ***Create value***: This Plan's vision is also about creating value—improving the quality of life for residents, increasing the attractiveness of the city as a place to live and work, and increasing economic prosperity. Core elements of this idea include empowering communities by encouraging participation and consensus-building, creating opportunities for sustainable, economic reinvestment, and adding value and providing an equitable distribution of opportunities to underserved neighbourhoods along the river.

How resilient are our cities that exist along a river stretch? We need to plan ROOM FOR RIVER to manage the uncertainty. The areas of prevention, preparedness, response and recovery are key to make resilient cities and integrated river management planning.
--Anil Kumar, MD-Water India, Royal Haskoning DHV

Most of the Master Plans in India have reserved a lot of land as ecological belt without specifying any uses of activities, which leads to unauthorized development, encroachment and pollution. Can we talk about land use planning around urban lands abutting rivers?
--Santosh Singh, Director, Phoenix Planning Studioz Pvt Ltd.

The theme 'Future Proofing' attempted to peek into the future to anticipate some of the big drivers (both positive and negative) that are likely to have an impact on river management philosophies and strategies. It also examined possible response mechanism to address the drivers.



1. Perhaps the biggest biophysical driver for river management in the future is climate change. The implications of climate change are not just in terms of flow variability, floods and droughts but also for water demand for various uses. Fortunately, the science of climate change is improving, although some modeling uncertainties still remain. River basin managers will be well advised to develop multiple scenarios for climate change, and start incrementally planning the strategies to adapt. To begin with, the low hanging fruits in terms of no regret solutions could be targeted.

2. As cities along a river expand (and they will) and become economic/commercial hubs, the upstream vs. downstream conflicts will become even more pronounced. This is already happening in several parts of the world. The implications of this conflict would result in more stress on the river to meet the increased water demand. The conflicts will also be aggravated by water pollution issues (if not regulated adequately) because the downstream of one city is the upstream of another. It will, therefore, be very important for river management of the future to plan holistically for the entire riverine system. This to some extent has already been advocated through philosophies like Integrated Water Resources Management. Efforts in this regard will need to be scaled up in the future.
3. At the heart of the systems approach for river management (which is very much the need in the present times as well) are River Basin Organizations (RBOs). Many

countries in Asia still don't have RBOs, and in those countries where RBOs exist they have limited regulatory powers. This needs to change. RBOs of the future need to be given powers beyond just local jurisdiction. Furthermore, they need to be recognized as legal entities with both regulatory and enforcement mandates. The funding streams for such organizations also need to be stable.

4. A big driver for river management in cities especially is encroachment into flood plains because of increased urbanization and densification. Encroachment in this context has usually been attributed to slums and informal settlements. While this is true, the nature of encroachment in bigger cities sometimes borders on brazen impudence with huge structures constructed in the floodplains. Zoning regulations and land use planning in cities will need to adapt to keep pace with such drivers.

5. The ever-increasing number of hydropower dams on major rivers, especially in Asia, is another major driver for river management. Hydropower development is seen as a viable option to reduce reliance on fossil fuels. However, the indiscriminate installation of hydropower plants (with a view to boost the economy) along the same stretch of rivers has several negative consequences for the river. Such projects not only affect the flow of the rivers, they also have an impact on the sediment transport that is so vital for maintaining the riverine biodiversity. Small scale hydropower systems are seen, nowadays, as a better option compared to the traditional hydropower plants.

6. Future-proofing river management cannot be achieved without a robust data system and its application for reliable modeling and scenario development. This essentially means that there is a need for stronger collaboration between universities/research institutions and the government.

7. Very important tools for river management such as Strategic Environmental Assessments and Transboundary Environment Impact Assessment are not being used enough in the current times. These tools look at river systems as a whole and serve as a crucial input for various plans, policies, and programmes. There is a need to scale up the use of these tools.

For effective River Management Strategies, we need to focus on: Resilient Forecasting Systems; Data Evidence based Governance Mechanism; Room for River; Building with Nature; Build Back Better and focus on Integrated Water Management for both urban and rural environments.
--Vikas Goyal, Director, Resilience & Water, Royal Haskoning DHV

Key messages and takeaways – CHERISHING BIODIVERSITY

The theme "Cherishing Biodiversity" looked at how the biodiversity perspective could be mainstreamed in river management, especially in urban contexts. While the emphasis on the biodiversity aspects of river management today is a lot stronger that in the past, it is still viewed as a peripheral element in urban settings. This theme discussed some of the ideas to build a case for bringing biodiversity from the periphery to the center of urban river management strategies.

Key lesson that COVID-19 has taught for river management?

We can, as a global community, respond effectively to a crisis. But we need to strategize our efforts. We will overcome the COVID crisis. The climate change crisis, we may not. Let the COVID-19 experience be a stepping stone to help us address that crisis.

1. The first step to mainstreaming biodiversity into river management plans and policies, especially where there are competing uses of the riverine resources, is sensitizing people that a thriving biodiversity improves the resilience of not only the ecosystem but also humankind that depends on it.

2. Much like the COVID-19 crisis, it is very much possible to have a river crisis. There are several examples from all over the world to corroborate this. For instance, in the year 2000, the Baia Mare cyanide spill by a gold mining company killed 60-80% of the aquatic life in the rivers Somes, Tisza, and Danube. Two years after the spill, the ecosystem began to recover, but it was still far from its initial state. Fishermen claimed that their catches were only at a fifth of their original levels. In the unbridled quest for economic development, more and more cities may report such incidents in the future.

3. A major threat to riverine biodiversity worldwide is blue green algae, which is a type of cyanobacteria. Blue green algae is toxic for animals. Furthermore, these are posing a risk to recreational and drinking water quality (e.g. in the United States) and may

increasingly pose a global health threat. This bacteria thrives in warmer climates so climate change may multiply the threat several times over.

4. There is a need in most parts of the world to move from static to real time data systems capturing various aspects of river systems. Such systems will provide enough lead time to strengthen the response to river crises.

5. Future river management strategies must account for as accurate as possible estimates of the absorbing capacity of ecosystems. Because it is impractical to inhibit developmental activities, such an estimate will prove a useful decision support tool in determining the extent of permissible developmental activities in river zones.

6. River health assessment has been traditionally done through the use of water quality indicators. However, for a complete and holistic assessment of the river's health other factors capturing quantity, physical habitat, and river biodiversity aspects are needed. River health assessment programmes of the future will need to expand the ambit of information that it encapsulates.

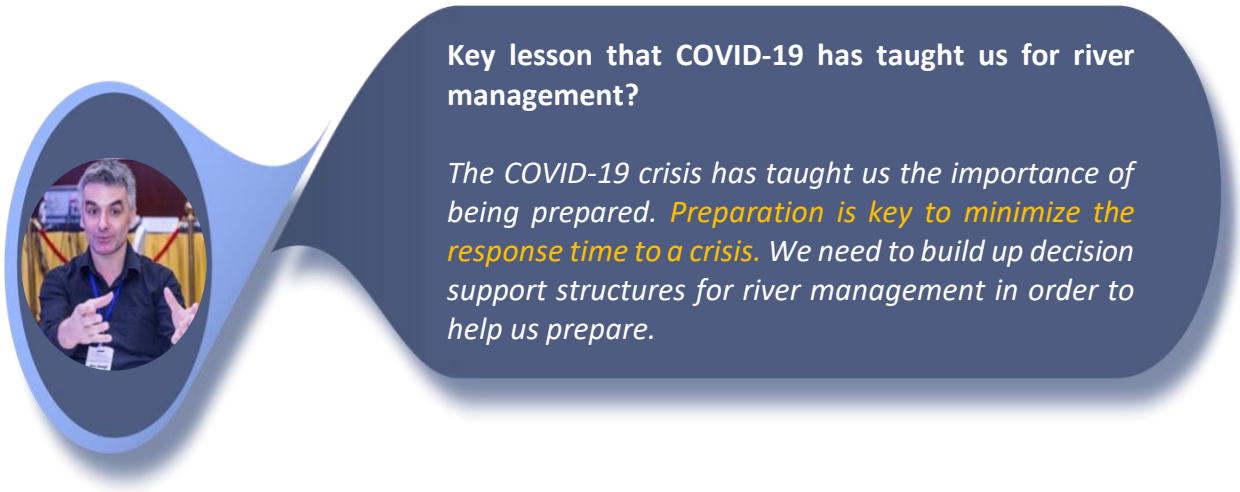
There is an urgent need to articulate and communicate the diverse values of healthy rivers (many of which are routinely undervalued). These values need to be integrated into basin management decisions.
--Suresh Babu, Director, Rivers, Wetlands and Water Policy, WWF India

The pollution crisis in the Rhine led to major changes in river water management and enhanced cooperation between the countries. Perhaps the Covid-19 crisis present a similar opportunity for River Basin Management.
--Mathew McCartney, International Water Management Institute

Will suggest to create a blue corridor which can serve as an oxygen source for the human life.
-- Shailendra Singh Solanki, Vice President, Ecofirst Services Ltd.

Key messages and takeaways – STAKEHOLDER ENGAGEMENT

The theme 'Stepped-up Stakeholder Engagement' focused on an often-neglected (or inadequately considered) component of river management. The need for stakeholder engagement is widely accepted almost unanimously everywhere. However, its adoption is far from widespread. **This theme discussed some of the ideas to help operationalize stakeholder engagement.**



1. The research community has a vital role to play in identifying ingenious ways of stakeholder engagement. Unfortunately, there is enough evidence to suggest that most scientific studies have had zero policy impact. Research design and methodologies need to change and adapt to this very important need.

2. It is often believed that an effective communication strategy can help solve problems in river management. This is only partially true. While communication is necessary, proactive engagement of the stakeholders in the management process is key to success.

3. Because of the nature and scope of river management, an effective stakeholder engagement strategy will need to address multiple vertical levels, starting at household level, to community level, to district level, to state level, and to national level.

4. It is imperative to understand stakeholder values and beliefs when designing a stakeholder engagement strategy. This is critical for the learning process. People's

beliefs influence their decisions, and their willingness (or unwillingness) to enter into a dialogue.

5. Stakeholder engagement for river management is complex because of the large number of stakeholders involved, and in many cases the stakeholders are competing for the same resources. It is therefore, extremely important, that the stakeholder engagement process is aimed at developing shared visions that minimize tradeoffs and maximize synergies. It is an iterative process that needs to proceed patiently.

6. Governments and politicians are usually at the apex of a stakeholder engagement process. It is this group that will ultimately help translate the engagement process into policy or regulations for river management. A thorough understanding of the constraints that this group faces and the risks they are willing to take is a crucial driver of the engagement process.

7. A stakeholder engagement strategy has a better chance of success if the stakeholders take ownership of the process. It is, therefore, important to allow stakeholders to discover the beauty of the engagement process.

Solutions need to come from a localized context. Every place have its own ecosystem and the solution lies in the need to be in harmony.
--Hitesh Changela, Associate Prof, Indubhai Parekh School of Architecture

We have to devise local solutions based on our own knowledge, wisdom and with the close cooperation of the stakeholders. The sense of OWNERSHIP is critical in this case.
--Vikas Goyal, Director, Resilience & Water, Royal Haskoning DHV

There should be more accountability of the stakeholders who are directly earning from the river, for example fisherman, temples authority, boatmen etc.
-- Durga Prasad Panday, UPES, APSS

Key messages and takeaways – ADAPTIVE GOVERNANCE

The theme 'Adaptive Governance' touched upon, perhaps, the most complicated aspect of river management. A common problem with current river governance systems across the globe is that these are too rigid, and take a while to respond to new paradigms and changes. The envelope of uncertainty of future drivers of river management is ever expanding necessitating a certain degree of flexibility in river governance systems to adapt and respond. **Using the National Mission for Clean Ganga as a backdrop, this theme deliberated on ideas to make that transition from rigid to adaptive governance systems.**

Key lesson that that COVID-19 has taught?

The crisis has taught us that even the most polluted rivers and streams have the ability to rejuvenate naturally if left alone for some time. In the post-COVID world, the challenge for us will be to balance anthropogenic influence with the absorbing capacity of rivers.

1. The central objective of river governance is finding the optimal balance between economic development, securing river-dependent livelihoods, and maintaining the river health. This objective is most likely to remain unchanged in the future as well. The drivers of river management, however, will change.

2. Many of the factors of river governance—climate, economics, demographics, politics, —are highly variable in nature. Future river governance systems would need to acknowledge and account for these. This will only be possible when there is a continuous attempt to 'reflect and learn'.

3. The National Mission for Clean Ganga is an example of how the governance has adapted over time, in a relatively short time. The mission started five years ago with an overwhelming emphasis on engineering solutions to clean up the river—constructing sewage treatment plants; interceptor sewers; installation of mechanical skimmers; among others. It did not take long to realize that a mix of solutions are

required for addressing the problem. A couple of years ago, the mission started to integrate the softer approaches as well. Recently, the mission has taken up data management in a big way. The mission also has multiple levels of governance, starting from the governing council headed by the Prime Minister to the district level.

4. Experiences from NMCG suggest that a clear long-term financial stream is crucial for effective governance.

5. Given the dynamic nature of river management, which will only intensity in the future, it is important that governance follows a river basin management cycle approach, which is an incremental approach of achieving greater and loftier targets in selected time frames.

6. River governance systems must encapsulate inter connected water systems, and not just the river. Hence, in addition to the river; its tributaries, wetlands, water bodies, and groundwater must all be accounted for in the governance framework.

7. A very effective governance tool for river management is valuation of ecosystem services. This facilitates the conversion of both tangible and intangible services to a common denominator, or monetary unit. Such valuation can provide very useful insights for identifying priority projects, channelizing conservation efforts, developing economic instruments in the form of taxes and subsidies, among others.

8. Like any other system, the success of a governance systems relies on the type of information available for decision making. Organizations responsible for river governance must invest in inventorization and building up data systems (both quantitative and qualitative) that will help inform different facets of river governance.

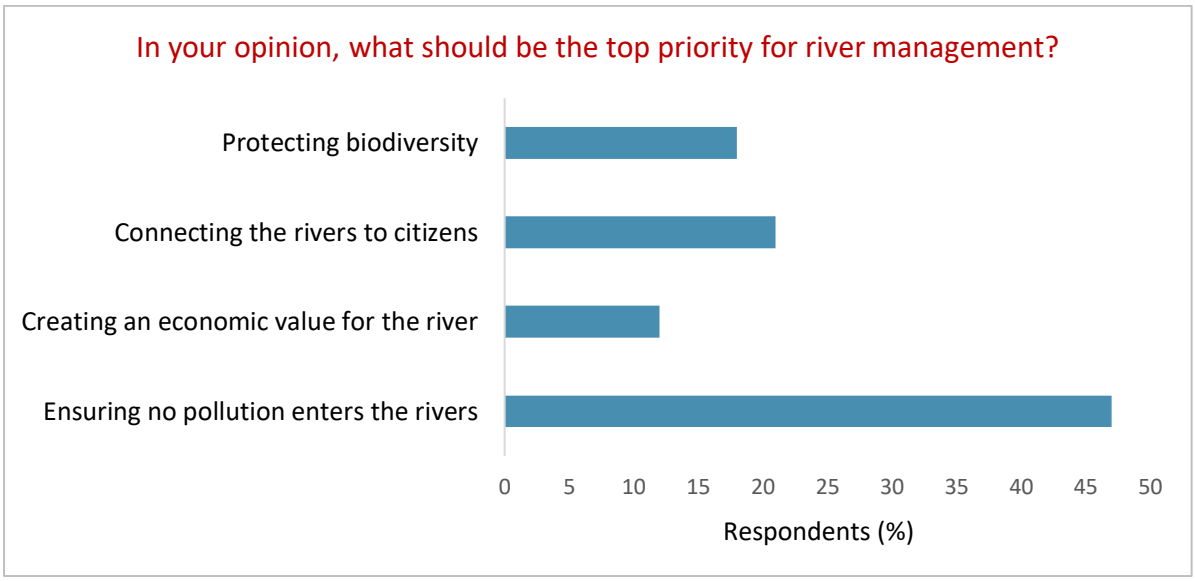
9. One of the main challenges for river governance today is lack of coordination and cooperation among various agencies and organizations. This needs to change as we move ahead. Institutional roles need to be re-defined to foster collaborative partnerships among agencies.

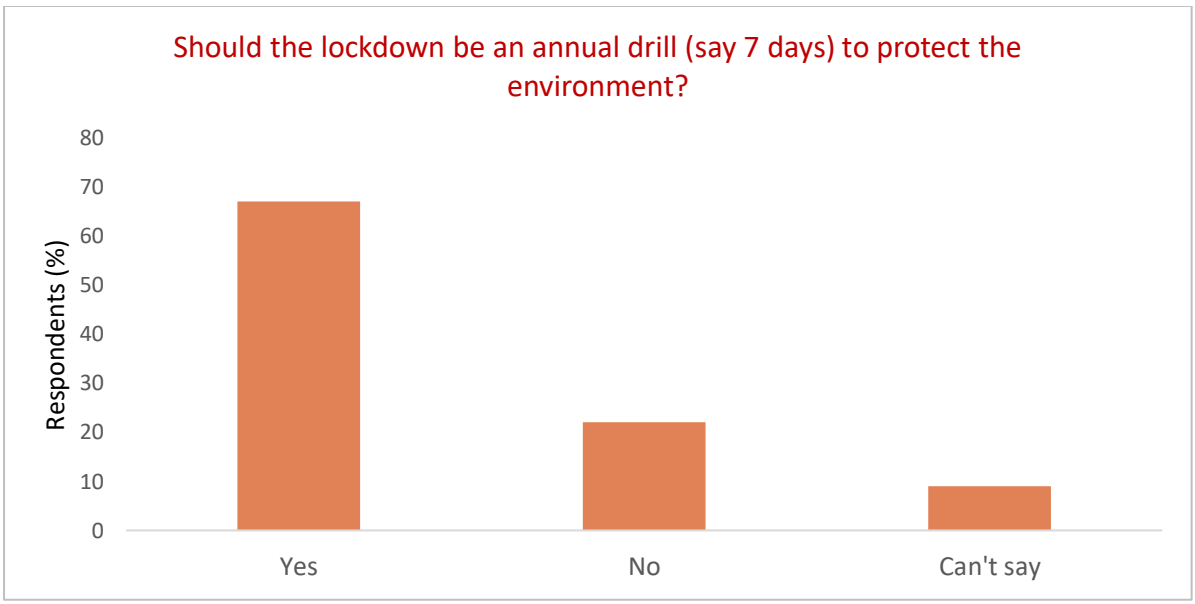
10. At the heart of adaptive governance is continuous learning. It is important to keep track of developments, and stay one step ahead in terms of preparation. Traditional models of institutional learning have relied quite a lot on capacity building through short-term training programmes and courses. These have limited benefits. Going forward, the learning mechanisms have to be more dynamic, requiring staff to constantly upgrade their skills.

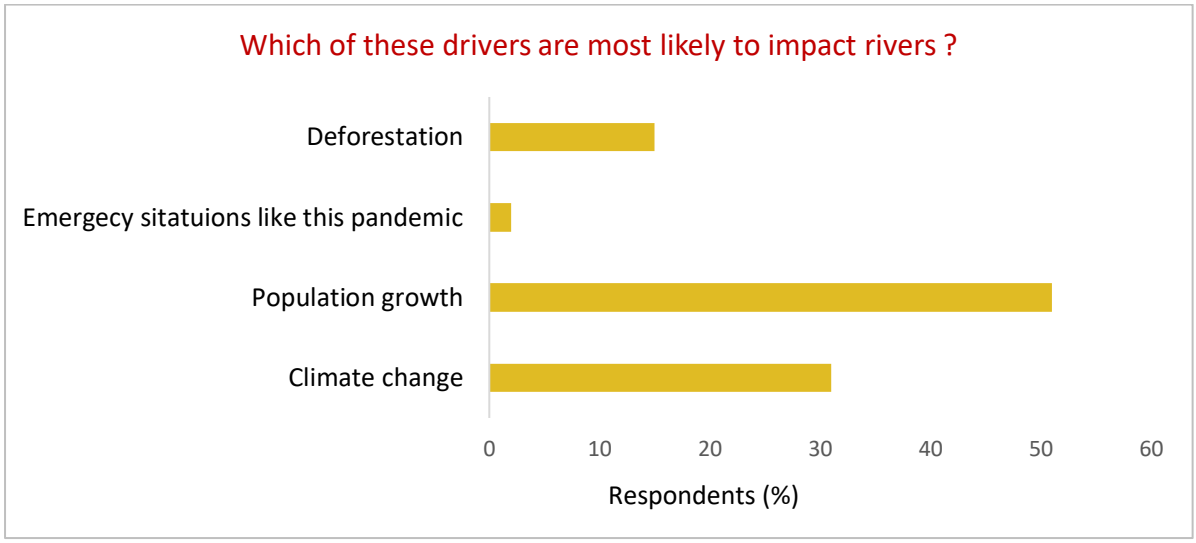
> *Integration of Water Departments has been done at the Central Ministry level. But water being a state subject, the same is not done at the state level. Water should be brought under one umbrella to think about it in an integrated manner from policy, governance and implementation purposes.*
> --Vikas Goyal, Director, Resilience & Water, Royal Haskoning DHV

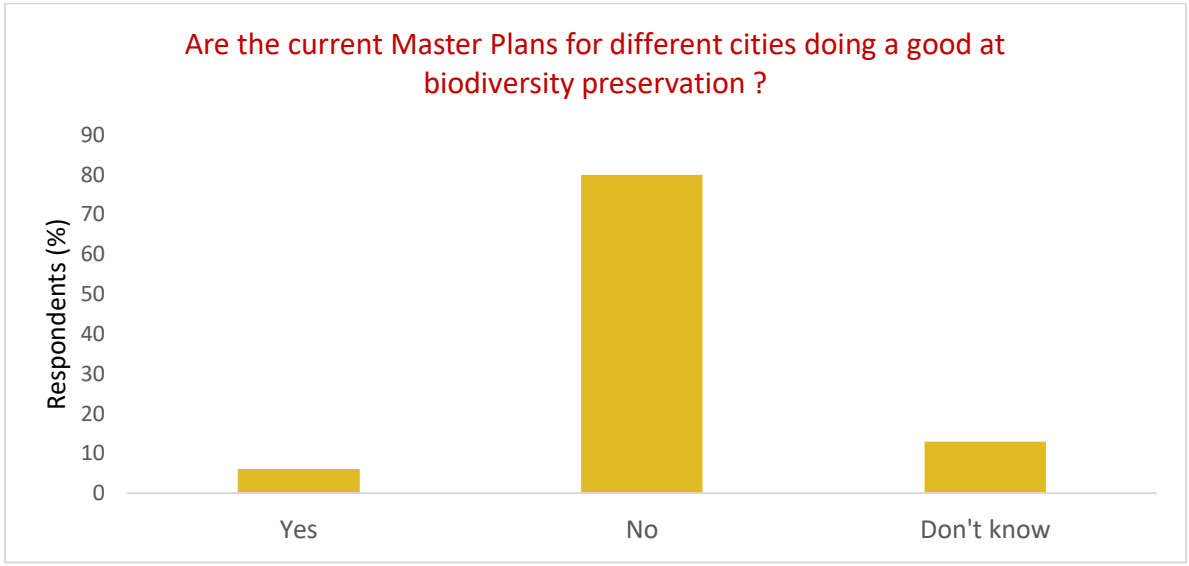
Participants' Polls

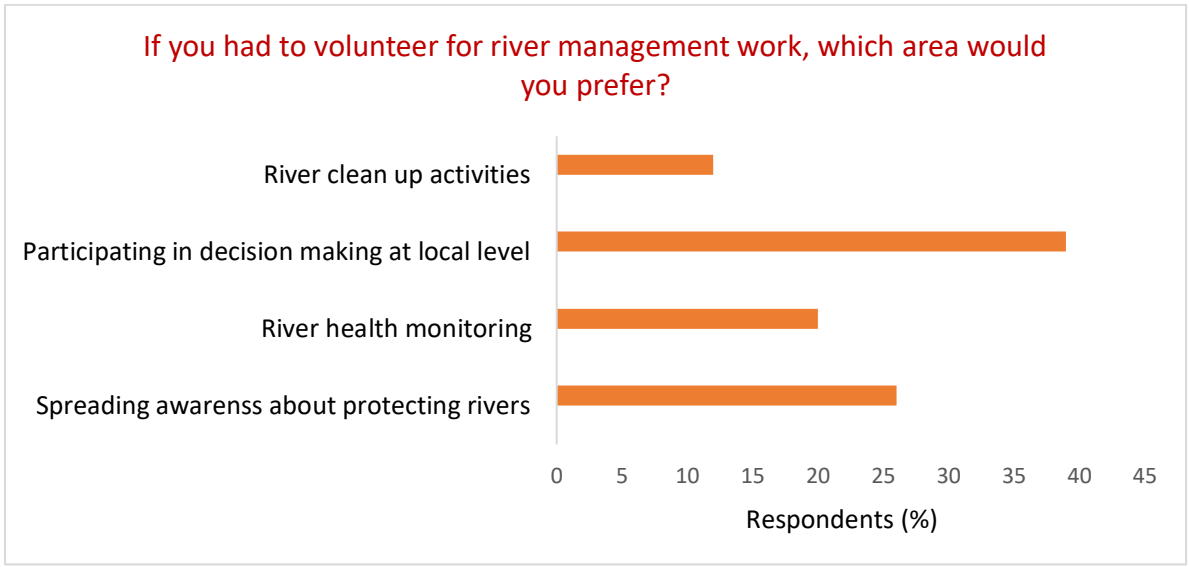
A series of audience polls were carried out during the Ideathon to solicit participants' perspective on different aspects of river management. The results of the polls provide some insights into what could be prioritized






Which of these drivers are most likely to impact rivers ?
Deforestation
Emergecy sitatuions like this pandemic
Population growth
Climate change
0
10
20
30
40
50
60
Respondents (%)


Are the current Master Plans for different cities doing a good at biodiversity preservation ?
Respondents (%)
90
80
70
60
50
40
30
20
10
0
Yes
No
Don't know


If you had to volunteer for river management work, which area would you prefer?
River clean up activities
Participating in decision making at local level
River health monitoring
Spreading awarenss about protecting rivers
0
5
10
15
20
25
30
35
40
45
Respondents (%)

Participants' Reflections

Strengthening the role of research in river management is a take back from this session.
It will be good to connect various urban planning Institutes with local government agencies by NIUA/Ministry in a special session.
--Ashwani Kumar, CEPT University

A great webinar to set the ball rolling. Let us crystallise it into tangible buckets and put our contributions into them for NMCG NIUA to further develop. Thank you.
--Anand Vikram Pethia, Omnipresent Robot Technology Pvt. Ltd.

Biggest Learning is "Respect Nature!" otherwise, Humanity will be impacted badly. Be Safe and Healthy. Many thanks NIUA and NMCG for organizing this platform for exchange of ideas and learning through learned panel of speakers. Best regards.
--Vikas Goyal, Royal Haskoning DHV Consulting Pvt.Ltd.

Believe this session would provide something for everybody to work on post COVID for better river management.
--Negul Devan Kr, TCP Kerala

We are responsible for the pollution as much of the pollution has been reduced. Humans should take it seriously and sometimes reduce the fast working system affecting the mother earth.
--Nivedita, Quality Council of India

It will be a good idea to compile case studies on river management from different countries, and deliberate in India for our own projects.
--Dr. V.C. Goyal, NIH

For any further information, please feel free to get in touch

Dr. Victor R. Shinde
National Institute of Urban Affairs (NIUA)

Ministry of Housing and Urban Affairs,
Government of India

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