

VOICE TO THE RIVER: OBSERVATIONS ON LEGAL RIGHTS FOR RIVERS IN INDIA

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ABSTRACT

The emerging environmental jurisprudence of providing legal rights to rivers hold great promise for the conservation and protection of riverine ecosystems at a global scale. It enables rivers to defend themselves either through an appointed legal guardian or through the active involvement of the community. The development of this rights-based framework in India is still at its nascent stage, requiring the creation of new knowledge to guide the process forward. In this context, the paper explores three fundamental questions on providing legal rights to rivers in India – whose responsibility is it to uphold the right, to what extent of the river is the right applicable and at what scale would relevant legislations operate? It draws its observations from the global experience of advancement of this jurisprudence while considering the intricacies specific to the Indian system and being guided by the existing scientific understanding of rivers. It thus provides future directions of research to advance the understanding and applicability of the rights-based framework for protecting rivers.

The dawn of the Anthropocene has witnessed a remarkable change in the way humans have interacted with the planet and its natural systems. Our collective activities have substantially altered the surface of the Earth, its atmosphere, oceans and processes. As a geological marker of this new epoch, the ubiquitous plastic has emerged as a reliable indicator, registering a global presence and forming a distinctive stratum. Rivers too have not been left untouched! The veins and arteries of the planet have been clogged, impounded and polluted; such that their flows have been reduced and much of their ecosystems altered through human influence. The rivers that had once created and nurtured the great civilizations of the past now require protection for their survival as they continue to sustain human

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societies through the delivery of various ecosystem services.¹ An entire suite of environmental laws came into existence globally after the United Nations Conference on the Human Environment (1972) in Stockholm. However, modern environmental laws are essentially anchored on an anthropocentric paradigm that has remained ineffective as human activities continue to irreversibly damage natural ecosystems. A pertinent reason for such weaknesses permeating into the laws that were intended to protect the environment stems from the fact that legal systems treat nature as a property that can be exploited for human needs instead of acknowledging it as an integral ecological partner. This has created a false dogma of humans over nature and undermines the interconnectedness that humans share with nature.² It is claimed that often an ‘environmental threshold’ perspective is put forward to operationalize such laws thereby legalizing environmental harms to a certain level and masking the net destruction of the natural world.³

These inherent weaknesses in the current paradigm have created the need for a new form of ecological governance that prioritizes and aims for nature’s right to flourish. This encompasses the right to restoration, the right to its natural processes, and the right to ecosystem functioning without interference.⁴ However the primary impression of the term ‘Right of Nature (“**RoN**”)’ is restricted to defending nature’s right in the court of law as against its protection by humans, and paving way for sustainable development. ‘Sustainability’ as a concept is also set to undergo revisions

¹ The Millennium Ecosystem Assessment defined Ecosystem Services as the benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling. The human species, while buffered against environmental changes by culture and technology, is fundamentally dependent on the flow of ecosystem services. See Millenium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis*, 2005 <http://www.millenniumassessment.org/documents/document.356.aspx.pdf>, last seen on 22/04/2021.

² S. Borràs, *New Transitions from Human Rights to the Environment to the Rights of Nature*, 5 Transnational Environmental Law 113, 119 (2016).

³ D. Lee, *Rights of Nature at the International Level*, Earth Law Center, available at <https://www.earthlawcenter.org/blog-entries/2017/10/rights-of-nature-within-the-un-and-iucn>, last seen on 22/04/2021.

⁴ C.L. Follette, *Rights of Nature: The New Paradigm*, American Association of Geographers, available at <http://news.aag.org/2019/03/rights-of-nature-the-new-paradigm/>, last seen on 22/04/2021.

as the framework of RoN gets mainstream and wider acceptance. For instance, in its current form, the Sustainable Development Goals (“SDGs”) are grounded in the Universal Declaration of Human Rights as echoed by one such goal – SDG 6 (Ensure availability and sustainable management of water and sanitation for all). This draws its power from the human right to water as a prerequisite for all other rights.⁵ However, it is self-defeating in a way when freshwater sources (rivers, lakes etc.) themselves do not have a right to exist and thrive in the first place. Providing legal personhood and a guardian to defend itself in a court of law is expected to give nature the required space for ecological governance and a strong tool to defend itself from the biased laws that only take into account human needs. Within this emerging environmental jurisprudence (or earth jurisprudence), rivers demand special attention since the flow in rivers acts as the life-nourishing blood within a landscape, sustaining people and wildlife and playing a key role in the global water cycle.

This emerging environmental jurisprudence is predicted to become a global movement in the 21st century, forcing countries to regulate the human use of freshwater from rivers and preventing harm to riverine ecosystems. This article explores three fundamental questions regarding the rights-based movement for protecting rivers in India –

- i. Whose responsibility is it to uphold the right?
- ii. To what extent of the river does the right apply?
- iii. At what scale would the right-based legislations operate?

The observations have been formulated by drawing from an emerging body of literature and a tapestry of global experiences concerning this movement. In doing so, it manages to outline the issues that will have to be dealt with if the rights-based framework were to be applied to the Indian context.

⁵ U.N. General Assembly, *The human right to water and sanitation*, Res. 64/292, Sess. 64, U.N. Document A/RES/64/292, 2 (03/08/2010) available at <https://digitallibrary.un.org/record/687002?ln=en>, last seen on 22/04/2021.

I. RIGHT OF THE RIVER – WHOSE RESPONSIBILITY IS IT TO UPHOLD IT?

The whole possibility of recognizing legal rights can be traced to the *Sierra Club v. Morton* case⁶ of 1972 in the United States of America. The article published by law professor Christopher Stone – ‘Should Trees Have Standing?’⁷, caught the attention of Supreme Court Justice William O. Douglas. Stone had argued that conferring legal personality to nature would enable nature to have rights and not be considered as the property of another person. This is true, even though other persons would be necessary to uphold the rights of nature. Though the court ruled that the NGO Sierra Club, who had sought to block the development of a ski resort in the Sierra Nevada Mountains, could not allege any injury since only the forest was injured and not the plaintiff; Justice Douglas cited Stone’s article to issue the famous dissenting opinion that said “*Contemporary public concern for protecting nature’s ecological equilibrium should lead to the conferral of standing upon environmental objects to sue for their own preservation.*”⁸

1. Observations on legal rights for water bodies and systems from across the world

Thereafter, in 1995, the Community Environmental Legal Defense Fund (“**CELDF**”) – a public interest law firm, was set up to provide legal services to communities that faced a threat to their local environment, agriculture, economy and quality of life.⁹ The modus operandi was to first draft ordinances to enable communities to ban particular activities, the second was to draft ordinances that took away rights from corporations to do so and, finally, the third was to include rights of nature and enable citizens to exercise these on behalf of nature.¹⁰ Two examples of how this

⁶ *Sierra Club v. Morton*, 405 U.S. 727 (1972, Supreme Court of the United States).

⁷ C.D. Stone, *Should Trees Have Standing? —Towards Legal Rights for Natural Objects*, 45 Southern California Law Review 450 (1972).

⁸ *Sierra Club v. Morton*, 405 U.S. 727, 742 (1972, Supreme Court of the United States).

⁹ *About CELDF*, Community Environmental Legal Defense Fund, available at <https://celdf.org/about-celdf/>, last seen on 14/01/2021.

¹⁰ T. Linzey, *Of Corporations, Law, and Democracy: Claiming the Rights of Communities and Nature*, 25th Annual EF Schumacher Lecture, available at <https://centerforneweconomics.org/publications/of-corporations-law-and-democracy/>, last seen on 14/01/21.

enabled communities to reclaim their right over water resources can be understood from the ordinances by the city of Pittsburgh and the city of Santa Monica. In the former case, it led to the banning of fracking, removed the rights of corporations responsible for it and laid the way for rights of natural communities and ecosystems such as wetlands, streams, rivers, aquifer and others to be established within the city.¹¹ In the case of the latter, the move was not reactionary but proactive as Santa Monica adopted the Sustainability Rights Ordinance.¹² They proclaimed that residents of the City may bring actions to protect groundwater aquifers, atmospheric systems, marine waters, and native species within the boundaries of the City.¹³

South America has also seen a fair share of participation in the rights-based movement for rivers with Ecuador and Bolivia being stellar examples, adopting constitutional revisions for embedding this framework. In 2008, the country of Ecuador adopted the rights of nature in its new Constitution.¹⁴ In 2011, the first lawsuit¹⁵ was placed under the right to nature provision against the new road constructed along the Vilcabamba River in Loja Province for dumping its rubble in the river. It was ruled in favour of the river asking the government to take immediate action.¹⁶ In 2010, Bolivia's Constitution also adopted the right of nature *vide* Section I of Chapter V of Part I which includes the following: "*Article 33: Everyone has the right to a healthy, protected, and balanced environment.*"¹⁷ They also approved the Law of the Rights of Mother Earth and the Framework Law of Mother Earth and the Integral Development of Living Well (Law 300 of the Plurinational State).¹⁸ Though it includes a set of institutions that are

¹¹ City of Pittsburgh, Pennsylvania Code of Ordinances, Title Six, Art. 1, Ch. 618.3(b).

¹² Sustainability Rights Ordinance, S. 10 (United States).

¹³ C.C. Kaplan, *Perspectives on Rights of Nature in Santa Monica, California*, UT Electronic Theses and Dissertations, 2016.

¹⁴ Constitución Política de la República del Ecuador, Art. 10.

¹⁵ N. Greene, *The First Successful Case of the Rights of Nature Implementation in Ecuador*, Global Alliance for the Rights of Nature, available at <https://therightsofnature.org/first-ron-case-ecuador/>, last seen on 21/03/2021.

¹⁶ *Indigenous People and Nature: A Tradition of Conservation*, UN Environment Programme (26/04/2017) available at <https://www.unep.org/news-and-stories/story/indigenous-people-and-nature-tradition-conservation>, last seen on 08/02/2021.

¹⁷ Bolivia (Plurinational State of)'s Constitution of 2009, Art. 33.

¹⁸ Law of the Rights of Mother Earth and the Framework Law of Mother Earth and the Integral Development of Living Well (Law 300 of the Plurinational State) (Bolivia); P.V.

in place to take action if nature's rights are violated, it also states that humans have the right to exploit nature.¹⁹ It is a paradox in itself and these loopholes have to be checked for a wholesome sustainable approach. The third country in the continent to recognize a river as a legal person was Colombia in 2016. The Colombian Constitutional Court ordered for the removal of the mines that were operating on the banks of the Atrato river upon hearing the plea of the community groups who had engaged the Center of Studies for Social Justice to fight their case.²⁰ The Court further stated that the Atrato River had legal rights regarding its protection, conservation, maintenance and rehabilitation.²¹ It also ordered the government to establish a commission of guardians comprising two representatives – one from the community and another from the government, further aided by an 'advisory team'.²²

Examples from Australasia include cases from New Zealand and Australia. New Zealand adopted national-level legislation in 2014 granting legal personality to Te Urewera via the Te Urewera Act.²³ It comprises lakes Waikaremoana and Waikareiti as well as the surrounding forest and land. Later they also added Te Awa Tupua which included 'the Whanganui River' and its surrounding.²⁴ In this, the river is defined as a living and integral whole, whose life is inseparable from the Whanganui Iwi. Te Pou Tupua – the guardian of the Te Awa Tupua, the legal entity, comprises of two persons one of which is to be appointed by the Crown and the other by the Whanganui Iwi.²⁵

Calzadilla and L.J. Kotzé, *Living in harmony with nature? A critical appraisal of the rights of Mother Earth in Bolivia*, 7 *Transnational Environmental Law* 397, (2018).

¹⁹ Ibid.

²⁰ Centre for Social Justice Studies v. Presidency of the Republic, Judgment T-622/16, Constitutional Court of Colombia.

²¹ Ibid.

²² P.V. Calzadilla, *A Paradigm Shift in Courts' View on Nature: The Atrato River and Amazon Basin Cases in Colombia*, 15 *Law, Environment & Development Journal* 51 (2019).

²³ Te Urewera Act, No. 51, 2014 (New Zealand); I. Davison, *Whanganui River Given Status of a Person under Unique Treaty of Waitang Settlement*, *New Zealand Herald* (15/03/2017), available at http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11818858, last seen on 08/02/2021.

²⁴ Te Awa Tupua (Whanganui River Claims Settlement) Act, 2017 (New Zealand).

²⁵ S.20, Te Awa Tupua (Whanganui River Claims Settlement) Act, 2017 (New Zealand); L. Charpleix, *The Whanganui River as Te Awa Tupua: Place-based law in a legally pluralistic society*, 184 *The Geographical Journal* 19 (2017).

In the case of Australia, the state of Victoria revamped the mechanism for decision-making with regard to water entitlement for the environment. Instead of the earlier arrangement where the Ministry of Environment had the last word on such decisions, a new body was created in 2010 – the Victorian Environmental Water Holder (“**VEWH**”). The VEWH was designated as the legal person to hold water rights and decide how to use the available water each year. It could also buy and sell water in the water market.²⁶

Africa too has a representation in the shift from an anthropocentric approach to an ecocentric approach. Uganda became the first country in Africa to recognize the rights of nature in the National Environment Act, 2019,²⁷ paving the way for a dent in the overarching legal structure in the continent that is based on anthropocentrism.²⁸ Section 4 of the Act states that “*Nature has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution*”. This means that citizens and custodian communities can now bring cases in front of Ugandan courts, holding anyone who damages or pollutes the natural environment to account.²⁹

In Asia, two neighbours – India and Bangladesh, which also share many transboundary rivers between them including the Ganga, Brahmaputra and Meghna, have also been represented in the global map through judicial decisions which have been taken in these countries. The Uttarakhand High Court in India recognized that the Ganga, its main tributary, the Yamuna, as well as “*all their tributaries, streams, every natural water flowing with flow continuously or intermittently of these rivers*” would be “*legal and living entities having the status of a legal person with all corresponding rights, duties and liabilities*”.³⁰ Bangladesh also witnessed a landmark verdict when the High Court

²⁶ S.33DD, The Water Act 1989, (Australia); E.L. O'Donnell & J. Talbot-Jones, *Creating legal rights for rivers*, 23 Ecology and Society (2018).

²⁷ S.4, The National Environment Act, 2019, (Uganda).

²⁸ O.T. Wuraola, *The Legal Rights of Natural Entities: African Approaches to the Recognition of Rights of Nature*, 137 in *Human Rights and the Environment under African Union Law* (M. Addaney & A.O. Jegede, 1st ed., 2020).

²⁹ S. 4(2), The National Environment Act, 2019, (Uganda).

³⁰ Mohd. Salim v. State of Uttarakhand, (2017) 2 KLJ (NOC 4) 7; E.L. O'Donnell, *At the intersection of the Sacred and the Legal: Rights for Nature in Uttarakhand, India*, 30 Journal of Environmental Law 135 (2018) available at <https://academic.oup.com/jel/article-abstract/30/1/135/4364852?redirectedFrom=fulltext>, last seen on 21/03/2021.

Division of the Supreme Court of Bangladesh recognised the Turag River as a living entity and legal person in 2019. It also observed that the same broad argument which is applicable for the Turag river can be applied to all rivers within the territory of Bangladesh. It thereafter appointed the National River Protection Commission (“**NRPC**”) as the legal guardian for all rivers including the Turag.³¹ A mandate was placed that the NRPC had to free all rivers of pollution and encroachment, ensure navigability, protect, conserve, beautify and carry out related developments on all rivers.³²

Table 1: Legal Personhood for Rivers/Water Resources.

Country	Type of Legislation creating the ‘right’	Who has the responsibility to invoke the law for upholding the right?
New Zealand	Public Act	Legal Guardian
Australia	Sub-national/Provincial Act	Legal Guardian
Ecuador	Constitutional Law	Citizen(s)
Bolivia	Constitutional Law	Legal Guardian
Colombia	Judicial Decision	Legal Guardian
Bangladesh	Judicial Decision	Legal Guardian
India	Judicial Decision	Legal Guardian
Uganda	National Law	Citizen(s)
United States of America	Local Law	Citizen(s)

2. Inferring from global observations and the Indian context

It can be seen that the rights-based approach for protecting freshwater bodies is emerging in different parts of the world through a wide variety of legal mechanisms and at different jurisdictional scales (Refer to Table 1).

³¹ Bangladesh Supreme Court, High Court Division, Writ Petition No. 13898/2016 (2019).

³² S. Islam & E. O'Donnell, *Legal rights for the Turag: rivers as living entities in Bangladesh*, 23 Asia Pacific Journal of Environmental Law 160 (2020).

Moreover, two trends can also be observed – one that explicitly requires the creation of a legal guardian for looking after the interests of the river, while the rest is the court's responsibility to uphold them through the active involvement of the community and upholding the human responsibility to better protect rivers from degradation.³³ This provides two separate pathways for operationalising the rights-based framework despite emerging from the same objective of protecting the river from degradation while assuming an eco-centric approach as against an anthropocentric one. Further, the knowledge and experience of indigenous populations, who have a rich tradition of coexisting harmoniously with nature through a deep respect and a strong sense of belonging to it, can be harnessed to promote RoN. They are a natural ally in the process of developing legislative protocols since their interdependent relationship with nature and a non-anthropocentric system serves as an existing primer for broader frameworks.³⁴ However, it must be borne in mind that cases exist to highlight that the nature of indigenous relations with the rights of nature as primarily strategic and not genealogical.³⁵ Overstating the affinities is not desirable either.

Moreover, the Indian context brings an added layer of complexity. In a culturally rich country like India, there will always be a perceived conflict between the right of nature and the human right to 'culture'. For example, in the Hindu philosophical worldview, it is a common belief that one can break the perpetual cycle of *samsara* – birth and rebirth, and achieve *moksha* or eternal liberation by having their ashes spread in the Ganga at Varanasi.³⁶ This has led to an increased footfall of people into the city and has led to the deterioration of the water quality in the river due to the presence of sewage, industrial waste, human and animal carcasses, etc.³⁷ Thus, in this

³³ C.J.I. Magallanes, *From Rights to Responsibilities using Legal Personhood and Guardianship for rivers*, 216 in *ResponsAbility: Law and Governance for Living Well with the Earth* (B. Martin, L.T. Aho & M. Humphries-Kil, 1st ed., 2019).

³⁴ L. Cano, *Rights of Nature: Rivers That Can Stand in Court*, 7 *Resources* 13 (2018).

³⁵ M. Tănăsescu, *Rights of Nature, Legal Personality, and Indigenous Philosophies*, 9 *Transnational Environmental Law* 429, 429 (2020).

³⁶ K. Kakar, *Afterlife and Fertility in Varanasi*, 187, in *Imaginations of Death and the Beyond in India and Europe* (G. Blumberger & S. Kakar, 1st ed., 2018).

³⁷ B.D. Tripathi & S. Tripathi, *Issues and challenges of river Ganga*, 211, in *Our National River Ganga* (R. Sanghi, 1st ed., 2014).

case, the human right to practice one's own faith is in direct conflict with the right of the river to not be polluted. Owing to the newness and lack of judicial precedent, the right of humans will most likely win. If the reason for pollution or exploitation has a cultural backing, then legislatures will be in a difficult situation trying to resolve the deadlock with culture versus the right of nature.

The Indian Constitution already has a provision for an individual to seek redressal for the violation of their fundamental rights by filing Public Interest Litigations (“PIL”) and Writ Petitions under Articles 32 and 226. There have been numerous instances in India, where a PIL has been used to resolve environmental disputes with the broadened concept of *locus standi*. Numerous environmental cases have had litigants who had themselves faced little to no harm.³⁸ However, the long-standing issue with PIL has been the implementation of the order by the statutory authorities. This itself questions the reason for appointing the same regulatory authority as the *locus parentis* for the rivers,³⁹ as senior public officials who have been made the *locus parentis* by the Court already have numerous obligations which might conflict with these new responsibilities to protect the river.⁴⁰

II. RIGHT OF THE RIVER – TO WHAT EXTENT?

There have also been cases when elements of an inherently connected natural system have been reduced to manageable units for the purpose of conferring legal rights. In such cases, little attention has been paid to the connections that exist in the natural world between different elements and how each is dependent on the other. A case in point is the judicial case involving the Vilcamba River in Ecuador.⁴¹ In order to widen the road in 2008, the local government of the Loja province allowed the dumping of rocks and excavation materials into the river. This subsequently led two

³⁸ M.G. Faure & A. V. Raja, *Effectiveness of environmental public interest litigation in India: Determining the key variables*, 21 *Fordham Environmental Law Review* 239, 254 (2010).

³⁹ I. Chaturvedi, *Why the Ganga should not claim a right of the river*, 44 *Water International* 719, (2019).

⁴⁰ G. Eckstein et al., *Conferring legal personality on the world's rivers: A brief intellectual assessment*, *Water International* 804, 822 (2019).

⁴¹ Judgment, Provincial Court of Loja, Case No. 11121-2011-0010 (Ecuador).

people to file a case or ‘protective action’ against the local government with the argument that the river has the right to its own natural course.⁴² The court gave its verdict in a manner that was prompt and decisive by invoking nature’s rights under Article 71 of the Constitution:⁴³

Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes. All persons, communities, peoples and nations can call upon public authorities to enforce the rights of nature.⁴⁴

However, the court also balanced the rights of the river with that of the need to improve the access route to the ‘Valley of Longevity’ – a valley situated 52 kilometres from the nearest town of Loja and at an altitude of 1500 metres. The valley is famed to inhabit people who enjoy long life spans, thereby encouraging people from other countries and regions to reside there post-retirement.⁴⁵ Therefore, the valley quickly became a prime attraction amongst new age soul-searchers,⁴⁶ thereby holding a distinct economic value for the region. The Court permitted the Provincial Government to remove trees for widening the road despite making it obligatory for the authority to not dump the rubble in the river. This showcases a narrow perspective in which these rights could be interpreted by the courts in the absence of a legal guardian.⁴⁷ Closer to home, in the case involving the Ganga river, it took a second Public Interest Litigation where the petitioner explicitly extended the ambit of legal personhood to all other natural objects, including glaciers,⁴⁸ for the court to bundle them together and extend the scope of legal personhood to include all-natural objects.⁴⁹

⁴² M.V. Berros, *Defending rivers: Vilcabamba in the South of Ecuador*, 6 *RCC Perspectives* 37, 38 (2017).

⁴³ L. Cano, *Rights of Nature: Rivers That Can Stand in Court*, 7 *Resources* 13 (2018).

⁴⁴ Constitution of the Republic of Ecuador, Art. 71.

⁴⁵ *Supra* 42.

⁴⁶ A. Bland, *Vilcabamba: Paradise Going Bad?*, *Smithsonian Magazine* (20/02/2013), available at <https://www.smithsonianmag.com/travel/vilcabamba-paradise-going-bad-21774567/>, last seen on 10/02/2021.

⁴⁷ *Supra* 33.

⁴⁸ E.L. O’Donnell, *At the Intersection of the Sacred and the Legal: Rights for Nature in Uttarakhand, India*, 30 *Journal of Environmental Law* 135, 140 (2018).

⁴⁹ *Lalit Miglani v. State of Uttarakhand*, Writ Petition (PIL) No. 140/2015 (High Court of Uttarakhand, 30/03/2017).

Going forward, it is important to realise that rivers are connected with not just their glaciers but also with various other elements of nature such as the floodplains, the aquifer, the atmosphere and the ocean. Water, in its various states, acts as a conduit for the exchange of sediments, nutrients and biota within these systems, creating complex and interdependent processes. As such, four dimensions of connectivity, or interactive pathways, have been identified. These are lateral, longitudinal, vertical and temporal (Ref. to Fig 1).⁵⁰ Any rights-based framework for the river needs to be cognisant of these four dimensions of connectivity which is not just essential for the riverine ecosystem but also the landscape through which it flows.

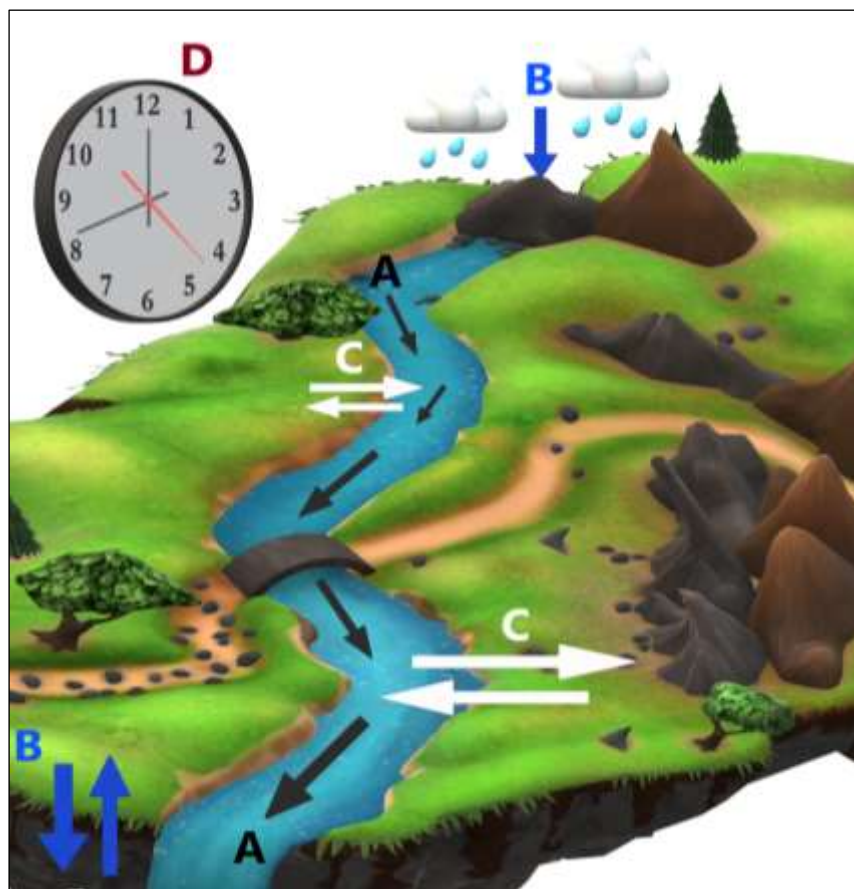


Figure 1: Four dimensions of river connectivity - A. Longitudinal, B. Vertical, C. Lateral and D. Temporal

The river consists of headwater in the source regions from where the bulk of the sediment load is generated, marking the upper stretch. The sediment is then transported through the middle stretch of the rivers and then

⁵⁰ J. Bandyopadhyay, *Water, ecosystems and society: a confluence of disciplines* (1st ed., 2009).

subsequently deposited in the lower stretch to form depositional landforms such as floodplains and deltas. In their landmark research for mainstreaming the river continuum concept across the entire stretch of a river, a group of scientists has provided a generic description of conditions prevalent in each of these stretches.⁵¹ The continuous gradient of physical conditions from the headwaters to the mouth of the river influences a series of adjustments in the constituent population of aquatic life, signifying a biological continuum. Any tinkering with the longitudinal connect by impounding water or diverting it through tunnels or open channels could damage the pre-existing conditions.

Similarly, rivers also interact along the entire breadth of the river corridor, through its banks, with its active floodplains and the extended riparian zone. This lateral connection allows for the two-way transfer of sediments, nutrients, and biota. When the floodplains get inundated due to high flows in the rivers, soil nutrient concentration gets regulated in the floodplains and the exchange of nitrogen with the atmosphere is stimulated.⁵² This enhances the floodplain functions like biomass production.⁵³ In another way, the inundation of floodplains allows for the release of dissolved organic carbons, nitrogen and phosphorous from the leaf litter and the floodplain soils. These, along with decaying plant matter, are transported back into the river channel during the flood recession.⁵⁴ This greatly nourishes the river and enhances the productivity of the fluvial ecosystems.⁵⁵ Human interventions such as the construction of embankments along the banks of a river can deeply impact this process.

⁵¹ R.L. Vannote et al., *The River Continuum Concept*, 37 *Canadian Journal of Fisheries and Aquatic Sciences* 130 (1980).

⁵² R. Ogden & M. Thoms, *The importance of inundation to floodplain soil fertility in a large semi-arid river*, 28 *Internationale Vereinigung für Theoretische und Angewandte Limnologie* 744, 747 (2002).

⁵³ M.V. Oorschot, C. Hayes & I.V. Strien, *The influence of soil desiccation on plant production, nutrient uptake and plant nutrient availability in two French floodplain grasslands*, 14 *Regulated Rivers: Research and Management* 313 (1998).

⁵⁴ D.S. Baldwin & A.M. Mitchell, *The effects of drying and reflooding on the sediment or soil nutrient dynamics of lowland floodplain systems: synthesis*, 16 *Regulated Rivers: Research and Management* 457 (2000).

⁵⁵ A.I. Robertson, A. Burns, & T. Hillman, *Scale dependent lateral exchanges of organic carbon in a dryland river during a high flow experiment*, 67 *Marine and Freshwater Research* 1293 (2016).

The vertical connection exists between the river and its catchment with the atmosphere, and between the river and the underlying aquifer through an intermediate zone – also known as the hyporheic zone. Water is received in the catchment either as snowfall or rainfall and it also evaporates from the catchment either directly as water vapour or when transpired by plants. Rivers may also gain water from an underlying unconfined aquifer or lose water to it depending on the fluctuation of the water table. During this exchange of water through the hyporheic zone, microbial activity and chemical transformation are also greatly stimulated by the percolating water. This allows water with nitrates and dissolved organic carbon to be released to sustain base flow during the dry periods.⁵⁶ Any excessive withdrawal of water may impact this dynamic exchange. This is becoming a growing concern due to the exploitation of groundwater for agriculture.⁵⁷ Lastly, the fourth dimension refers to temporal connectivity and signifies the continuous physical, chemical, and biological interactions that take place over time and in a somewhat predictable pattern. This can happen seasonally, over many years, or even over various generations. These lead to the creation of productive ecosystems and, over time, lead to the biocomplexity of riverscapes through a process of ecological succession.⁵⁸

The extent to which the rivers can exercise their rights or communities can use legal provisions for upholding their rights needs to be arrived at through a scientific assessment. This needs to be done by considering the specificities of the river basin and the concept of river connectivity and exchange pathways can be an initial starting point for such an assessment. Any arbitrary judicial order concerning the delineation of the scope of the right might render it underutilised or ineffective in real terms. As such six fundamental values concerning the rights of the river have been identified through the Grant Wilson Universal Declaration of River Rights⁵⁹. These are –

⁵⁶ J.P. Zarnetske et al., *Dynamics of nitrate production and removal as a function of residence time in the hyporheic zone*, 116 *Journal of Geophysical Research: Biogeosciences* (2011).

⁵⁷ M. Giordano, *Global groundwater? Issues and solutions*, 34 *Annual review of Environment and Resources* 153 (2009).

⁵⁸ C. Amoros & G. Bornette, *Connectivity and biocomplexity in waterbodies of riverine floodplains*, 47 *Freshwater Biology* 761 (2002).

⁵⁹ *Universal Declaration of River Rights*, Earth Law Centre, available at

- i. The right to flow.
- ii. The right to perform essential functions within its ecosystem.
- iii. The right to be free from pollution.
- iv. The right to feed and be fed by sustainable aquifers.
- v. The right to native biodiversity.
- vi. The right to restoration.

However, these are only normative guidelines and not blueprints for actions. The four dimensions of connectivity are an embodiment of the integrated nature and functioning of natural systems. Therefore, the legal provisions to protect the rivers through a rights-based approach should reflect such integrations. Without an explicit recognition and appreciation of such connections, the whole purpose of protecting rivers and their ecosystems from degradation might be defeated or, at best, help in limited fulfilment.

III. RIGHT OF THE RIVER – AT WHAT SCALE?

In the landmark judgements of the Uttarakhand High Court, it was ruled that the Ganga, the Yamuna, their tributaries, the glaciers that feed their headwaters and all other natural objects were legal persons, enjoying legal rights.⁶⁰ Furthermore, the judgments also asserted that these are legal minors in the eyes of the law and therefore, required legal guardians to fight their cases. These judgements were passed based on two separate PILs. The first was filed by one Mr. Mohammed Salim regarding the illegal construction and encroachments along the Ganga river and the inability to constitute a Ganga Management Board.⁶¹ The second was filed by another Mr. Lalit Miglani who wanted the ‘personhood status’ to be extended to various natural objects in the state which were important for the sustenance of the two rivers – the Ganga and the Yamuna. His main assertion was that the government authorities had failed in discharging their statutory duties

<https://static1.squarespace.com/static/55914fd1e4b01fb0b851a814/t/59c5a79ba8b2b0dc3295a8af/1506125725815/Universal+Declaration+of+River+Rights+%28Draft%29+Sept+2017.pdf>, last seen on 05/02/2021.

⁶⁰ Mohd. Salim v. State of Uttarakhand, (2017) 2 KLJ (NOC 4) 7; Lalit Miglani v. State of Uttarakhand, Writ Petition (PIL) No. 140/2015 (High Court of Uttarakhand, 30/03/2017).

⁶¹ Mohd. Salim v. State of Uttarakhand, (2017) 2 KLJ (NOC 4) 7.

in curbing sewage discharge into the Ganga and prevention of water pollution.⁶²

Despite the forward-looking verdict which had created ripples in the legal community and amongst environmentalists, it faced flak when the Uttarakhand Government appealed to the Supreme Court of India. The state government cited the legal and administrative complexities which would emerge if the order of the Uttarakhand High Court were to be implemented. One of the reasons which were cited was the inability of the state government to act unilaterally since the regulation of interstate rivers is guided by the Union Government and the state had no role to play.⁶³ The Ganga and the Yamuna along with most of their tributaries are not just interstate rivers but also cross international borders (Ref. to Fig 2).

Therefore, based on the discussion in the previous section, assigning legal personhood for the protection of the river's health, the ecosystems dependent on it and the biogeochemical processes dependent on the flow of water and flow regimes would be meaningless if the river system is not treated as a whole. Reducing the river to stretches within the state boundaries, as was the unintentional but inevitable result of the Uttarakhand High Court verdict, would be disregarding the connections which have been elaborated in the previous section (Section 2). This directly conflicts with the foundational principles that the legal provisions would be designed from an eco-centric perspective. Therefore, this warrants a critical look at the existing constitutional provisions for the governance of interstate rivers and to explore how the right-based framework might influence this arrangement.

⁶² Lalit Miglani v. State of Uttarakhand, Writ Petition (PIL) No. 140/2015 (High Court of Uttarakhand, 30/03/2017).

⁶³ *SC stays Uttarakhand HC order on Ganga, Yamuna living entity status*, The Indian Express (08/07/2017), available at <https://indianexpress.com/article/india/sc-stays-uttarakhand-hc-order-on-ganga-yamuna-living-entity-status-4740884/>, last seen on 06/02/2021.

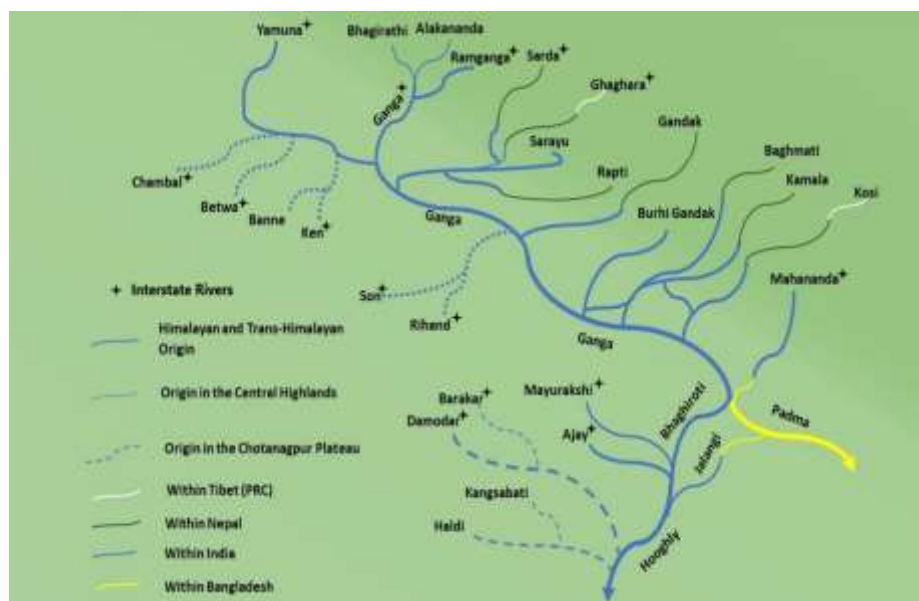


Figure 2: River line diagram of the Ganga Padma System.

Source: Modified by authors from P. Kapuria & S. Modak, *An Eco-Hydrological Perspective to Monsoon High Flows in the Ganga-Padma System: Imperatives for Flood Management*, ORF Occasional Paper No. 214, September 2019, Observer Research Foundation.

The initial case which started with the filing of the petition by Mohammed Salim was primarily meant to seek redressal for the limbo regarding the constitution of the Ganga Management Board following the creation of Uttarakhand from Uttar Pradesh. According to the Uttar Pradesh Reorganization Act of 2000, the Central Government was mandated to constitute a board for administration, construction, maintenance, and operation of projects for the use of river water for irrigation, rural and urban water supply, hydropower generation, navigation, industries and any other purpose as notified by the Central Government in the Official Gazette.⁶⁴

The plea stated that even after 14 years since the formation of Uttarakhand, the property dispute concerning the river had continued. The petitioner mentioned that the private respondents had purchased government land and raised constructions, taking the ground that the property belonged to the State of U.P. and that the boundaries were yet to be determined. It was

⁶⁴ S. 80, The Uttar Pradesh Reorganisation Act, 2000.

later determined that the encroached land was owned by the Irrigation Department and the onus of removing the encroachment also lay with the same department. However, although the U.P. Irrigation Department was permitted to manage Hydel Projects associated with the Ganga canal, the state was only a temporary custodian of the assets and land associated with the Ganga canal. Moreover, a high-level committee had been convened by both the states and a settlement had been reached regarding the distribution of property right on 02.02.2016. The final decision had to be taken by the Central Government and it had simply delayed the process. The court observed that the delay by the Central Government created avoidable fissures and frictions affecting the rights and liabilities of the two states of the federation to practice cooperative federalism.⁶⁵

The existing constitutional provisions related to water and the division of legislative powers between the Union of India and its federal constituents reflect a certain degree of ambiguity. Schedule VII of the Indian Constitution creates a distinction between the use of water within a state and for the purpose of regulating interstate waters. It bestows power on the Union Parliament to formulate laws and mechanisms for regulating interstate rivers (Entry 56 of List I – Union List)⁶⁶ while allowing the states to decide on the use of water for various purposes like water supply, irrigation and canals, drainage and embankments, water storage and water power (Entry 17 of List II – State List)⁶⁷, subject to the provisions of Entry 56 of List I.⁶⁸ Despite the constitutional mandate, the Centre has remained reluctant in assuming a proactive role for the governance of interstate rivers and has relied on the exigent formula of dispute resolution.⁶⁹ Moreover, in the absence of any proactive legislation limiting the use of interstate waters, the legislations in the states have considered the entire extent of surface water available within its borders often leading to conflicting claims with

⁶⁵ Mohd. Salim v. State of Uttarakhand, (2017) 2 KLJ (NOC 4) 7.

⁶⁶ Schedule 7(I)(56), the Constitution of India.

⁶⁷ Schedule 7(II)(17), the Constitution of India.

⁶⁸ H. Salve, *Interstate River Water Disputes*, in *The Oxford Handbook of The Indian Constitution* (S. Choudhary, M. Khosla & P.B. Mehta, 1st ed., 2016).

⁶⁹ S. Chokkakula, *Interstate River Water Governance: Shift focus from conflict resolution to enabling cooperation*, Centre for Policy Research (13/06/2019), available at <https://www.cprindia.org/news/interstate-river-water-governance-shift-focus-conflict-resolution-enabling-cooperation>, last seen on 06/02/2021.

neighbouring states that share the river or its tributary.⁷⁰ This imprecise distribution of power between the Centre and the states has led to a federal-jurisdictional ambiguity.⁷¹

As discussed before, there exist two pathways for operationalising the rights-based framework in India. The one that does not require a legal guardian to be created might see the strengthening and regularisation of the existing mechanisms for filing environmental PILs in the country and more instances of judicial activism. However, based on global experiences, it can be assumed that such instances will be sporadic in their occurrence and localised in their scope. It might also be inadequate to deal with the plethora of challenges that currently plague the rivers in the country, particularly when one considers the impediments on the four dimensions of connectivity which have already been discussed.

The second pathway would require the creation of a legal guardian. Ideally, the legal guardian should be given an independent authority with no conflict of interest. The qualification for the position, the term of office and salary should be pre-decided for avoiding any political interference after the appointment. Similarly, provisions should be in place to allocate funds mandatorily and unbiasedly, and check flow of funds free and fair. These design aspects can be in line with the provisions for other existing independent bodies like the Election Commission (EC), and the Comptroller and Auditor General of India (CAG). The legal guardian should also be able to engage with both tribunals and courts along with any aggrieved party. The body should also have the capacity to review projects retrospectively for evaluating the degradation caused to the rivers. This points out the critical design elements that will have to be considered for ensuring the independent functioning and autonomy of the legal guardian.

⁷⁰ S. Modak & A.K. Ghosh, *Federalism and Interstate River Water Governance in India*, Observer Research Foundation Occasional Paper No. 294, (2021) available at <https://www.orfonline.org/research/federalism-and-interstate-river-water-governance-in-india/>, last seen on 07/02/2021.

⁷¹ A.K. Ghosh & S. Modak, *Interstate river water disputes: Chasing ambiguities, finding sense*, Observer Research Foundation (15/10/2020) available at <https://www.orfonline.org/expert-speak/interstate-river-water-disputes-chasing-ambiguities-finding-sense/>, last seen on 07/02/2021.

IV. WAY FORWARD

The three questions that have been raised in this article are intended to provide a future direction of research for strengthening the cause of the emerging environmental jurisprudence. It is also important to note that this is an opportune moment to consider the possibility of a legal guardian at the scale of a river basin. This is because the Union government in India has embarked on a new mission to establish a River Basin Authority (“**RBA**”) for all river basins in the country through the proposed River Basin Management Bill, 2018. The draft bill envisages a two-tier system for the RBAs. The first tier will comprise the Governing Council, represented by the chief ministers and ministers in charge of water resources from each of the basin state, along with the chairman of the executive board (nominated by the Central Government). The second tier will be the entire Executive Board, headed by the chairman, a financial adviser, and state-level bureaucrats and experts in environment, water-planning, power, groundwater.

It is most appropriate that legal guardians, if such an entity is set up for river basins, should interact with the members of the Governing Council and engage to uphold the interests of the river. In this way, it can bypass the federal-jurisdictional ambiguity which has been discussed before. Leveraging this river basin level architecture for water governance, whenever that emerges, and engaging in dialogues with political representatives of the basin states, will allow the legal authority to participate directly in the decision-making process and at a scale of relative consequence. However, despite bypassing the subnational hurdle of a federal-jurisdictional ambiguity and making an attempt to consider a broader extent of riverine connectivity, the transnational hurdle remains as most of the river systems of North India cross international boundaries. In some cases, such as the Ganga and the Brahmaputra, India is poised as the middle riparian. Therefore, it is in the collective interest of the whole of South Asia if this emerging environmental jurisprudence were to gain a foothold in the entire region in a synchronised manner.