

COUNTER HEGEMONIZATION FOR URBAN LAKE CONSERVATION: A RESONANT APPROACH TOWARDS EFFECTIVE LEGAL FRAMEWORK

*M.P. Chengappa**

*Manaswi***

Abstract

The misbalance of the whole ecological cycle and in particular, the lakes in the urban areas is the result of the interplay of rising tourist attraction, discharge of untreated industrial waste into these lakes, and a myriad of other pollutants, along with non-sensitiveness on the part of authorities for their preservation. A law merely on paper transforms into a useless formality unless its effective implementation is ensured. The transition from treating urban lakes as property for the benefit of the entire community to lack of responsiveness on behalf of authorities to its excessive depletion and the acute shortage is alarming and disheartening at the same time. The present research paper seeks to analyze the factors catalyzing urban lake degradation, the handicapped state of present rules, their minimalistic pace of implementation. Finally, it suggests a way forward to positively find its solution in counter-hegemonic globalization if implemented strategically.

- I. Introduction**
- II. Plausible Connections Leveraging Lake Degradation**
- III. Preservation through the Lens of Sociological Jurisprudence**
- IV. Legal Regime of Lake Conservation and Bottlenecks in Policy Implementation**
- V. Judiciary to Environment's Rescue**
- VI. Lake Restoration and Conservations: An Illustrative Trajectory**
- VII. Conclusion and Suggestions**

I. Introduction

THE EVER-INCREASING adverse impact of urbanization throttles developing nations, especially as their existing natural resources undergo the strain of hegemonic globalization. This globalization manifests itself in the monopolization of the nation's capital resources and exploitation of its environmental resources without taking steps for its renewal. One such resource facing the wrath of such urbanization is the urban wetlands, especially the lakes. Once

* Assistant Professor, West Bengal National University of Juridical Sciences.

** Assistant Professor, ICAI University.

these lakes are exploited to the fullest, they are abandoned with no concrete efforts even by the state authorities for their replenishment. The tranquility, aesthetic, scenic importance surrounding these wetlands is being recognized increasingly. Still, at the same time, they alarmingly occupy only 4% of the land surface¹ and 0.013% of the earth's surface² thereby making their conservation more pivotal.

One of the significant inter-governmental treaties concerning conservation and efficient usage of wastelands was adopted in 1971 in the Iranian city of Ramsar. It aims at “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.”³ The convention goes on to define wetlands as “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters”.⁴ In India, thirty-seven wetlands are notified as Wetlands of International Importance.⁵ Interestingly, the Wetlands International defines wetlands as inclusive of “mangroves, peatlands and marshes, rivers and lakes, deltas, floodplains, and flooded forests, rice-fields, and even coral reefs.”⁶ However, as per the Cowardin Classification, species of lakes considered under wetland is Lacustrine wetland.⁷ These shallow swamp portions of the lake are home to delicate flora and

¹ Lisa Borre, “117 Million Lakes Found in Latest World Count” *National Geographic*, Sept. 15, 2014, available at: <https://blog.nationalgeographic.org/2014/09/15/117-million-lakes-found-in-latest-world-count/> (last visited on Oct. 24, 2020).

² USGS, “How much of water is there on, in, and above the Earth?”, available at: https://www.usgs.gov/special-topic/water-science-school/science/how-much-water-there-earth?qt-science_center_objects=0#qt-science_center_objects (last visited on Oct. 24, 2020).

³ “The Convention on Wetlands and its Mission” *Ramsar*, available at: <https://www.ramsar.org/about/the-convention-on-wetlands-and-its-mission#:~:text=The%20Convention's%20mission%20is%20%E2%80%9Cthe,sustainable%20development%20throughout%20the%20world%E2%80%9D> (last visited on Oct. 7, 2020).

⁴ UNESCO, “Convention on Wetlands of International Importance especially as Waterfowl Habitat”, art 1.1 (July 13, 1994), available at: https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf (last visited on Oct. 7, 2020).

⁵ Special Correspondent, “10 more wetlands in India declared as Ramsar sites”, *The Hindu*, Jan 28, 2020, available at: <https://www.thehindu.com/sci-tech/energy-and-environment/37-indian-wetlands-declared-sites-of-international-importance-under-ramsar-javadekar/article30675881.ece#> (last visited on Oct. 24, 2020).

⁶ Wetlands International, “What are Wetlands”, available at: <https://www.wetlands.org/wetlands/what-are-wetlands/#:~:text=Wetlands%20occur%20where%20water%20meets,fields%2C%20and%20even%20coral%20reefs> (last visited on Oct. 24, 2020).

⁷ Lewis M. Cowardin, Virginia Carter, *et.al.*, “Classification of Wetlands and Deepwater Habitats of the United States” *U.S. Dept. of Interior Fish and Wildlife Services*, available at: <http://fwf.ag.utk.edu/mgray/wfs340/PDF/Cowardin.pdf> (last visited on Oct. 24, 2020).

fauna and support natural vegetation⁸. Hence, an analysis of lake conservation makes the conservation of these types of wetlands equally important.

The formation of lakes can be either via a tectonic, fluvial, glacial, or volcanic process. The lakes so formed often encounter the phenomena of eutrophication. Under this process, the inhibition of photosynthesis leads to excessive algae growth. This process occurs naturally over the centuries. However, the recent past has witnessed an accelerated rate of eutrophication in the form of cultural eutrophication.⁹ The nutrients in the lake get limited by increased human activities, which in turn deteriorate the quality of water, making it unsuitable for the survival of various living organisms and unfit for drinking and recreational purposes.¹⁰

Additionally, anthropogenic eutrophication profoundly impacts the drainage basin of the lake. Lakes have a significant impact on the biodiversity and landscape around, apart from having several socio-economic influences. The implications for microclimate, as well as rejuvenation of groundwater levels, come from nature as well as man-made lakes. The necessary support to biodiversity comes from the rise in the surface area of lakes comprising lacustrine wetlands. These wetlands not only serve as habitat for various species but also provide water for irrigation purposes.¹¹ Flood mitigation, carbon cycle maintenance¹² and cost-effective pollution control¹³ (both point and nonpoint pollution) are a few other advantages of these wetlands.

II. Plausible Connections Leveraging Lake Degradation

Land, as a subject, is included under the State List. Given the space crunch, it is common in the urban areas to have easement rights and the rights of extraction/ usage rather than ownership rights over the land. This makes the role of urban commons in lake conservation extremely vital. Especially the peri-urban areas, which are in the phase of transition from the rural to the urban

⁸ “Lacustrine Wetland”, *Trenchless Pedia* (July 31, 2018), available at: <https://www.trenchlesspedia.com/definition/3086/lacustrine-wetland#:~:text=Lacustrine%20wetlands%20are%20swamps%20within,aquatic%20life%2C%20flora%20and%20fauna>. (last visited on Oct. 24, 2020).

⁹Michael F. Chislock, Rachel A. Zitomer, *et.al.*, “Eutrophication: Causes, Consequences, and Controls in Aquatic Ecosystems” 10 *Nature Education Knowledge* 4 (2013).

¹⁰*Id.* at 4

¹¹ Nitin Bassi, M.Dinesh Kumar, *et. al.*, “Status of wetlands in India: A review of extent, ecosystem benefits, threats and management strategies” 2 *Journal of Hydrology: Regional Studies* 1-19 (2014).

¹² *Id.* at 7.

¹³*Id.* at 8-9.

setup, experience the rate of use of common resources, which far exceeds the rate of administrative control.¹⁴ In these peri-urban areas where land is low priced and degradation far quickly traversable to the urban setup, it leverages lake degradation. While we discuss the consequences of lake degradation in the following paragraphs, the bottom-up institutional implementation arising from de facto local community control in this transitional state of peri-urban areas becomes prima facie important.

Another factor plausibly contributing to lake degradation is the alarming increase in anthropogenic pressure on lakes and the intensification of urban and industrial activities.¹⁵ The degradation of lakes amplifies itself in the form of eutrophication, habitat destruction and toxification of water bodies along with the agricultural runoff.¹⁶ A major problem in the urban areas arises with the in-lake recreational activities, which are alarmingly on the rise.¹⁷ This causes encroachment of in-lake areas and magnifies the issue of water abstraction, contributing further to lake depletion. These lakes also get infested with floating weed, which became prominent in the 1960s with such infestation of the Kakki reservoir in Kerala. “Most of the lakes created primarily for urban water supply degrades rapidly as the settlements grow exponentially around them, and the drinking water reservoirs became recreational grounds as well as receptacles for urban wastes of all kinds.”¹⁸

Additionally, deforestation, intensification of agricultural activities, urbanization and siltation largely account for watershed degradation.¹⁹ Currently, the water hyacinth accounts majorly for lake depletion in Chennai.²⁰ Equal contribution to this depletion comes from the man-made causes of intense water abstraction, the intensification of recreational activities, yield

¹⁴ Amrutha Mary Varkey and S.Manasi, “A Review of Peri- Urban Definitions, Land Use Changes and Challenges to Development” 39(1) *Urban India* (2019).

¹⁵ Martin Sondergaard and Erik Jeppesen, “Anthropogenic impacts on lake degradation and stream ecosystems, and approaches to restoration” 44(6) *Journal of Applied Ecology* 1089-94 (2007).

¹⁶ *Supra* note 9.

¹⁷ Shivali Jainer, “How do India’s policies and guidelines look at ‘urban lakes’?”, *Down To Earth*, Jan. 3, 2020, available at: <https://www.downtoearth.org.in/blog/urbanisation/how-do-india-s-policies-and-guidelines-look-at-urban-lakes--68662> (last visited on Oct. 25, 2020).

¹⁸ Ministry of Environment and Forests, “Conservation and Management of Lakes: An Indian Perspective” (July 28, 2010), available at: http://wgbis.ces.iisc.ernet.in/biodiversity/sahyadri_eneews/newsletter/issue52/report/conservation-management-of-lake-India.pdf (last visited on Oct. 7, 2020).

¹⁹ *Ibid.*

²⁰ Laasya Shekhar, “Why our lakes are forever teeming with the deadly water hyacinth”, *Citizen Matters*, July 5, 2018, available at: <https://chennai.citizenmatters.in/removal-of-water-hyacinth-in-our-lakes-is-a-never-ending-problem-here-is-why-4941> (last visited on Oct. 25, 2020).

maximization oriented aquaculture, among others. The deleterious effects of lake degradation are prominently seen in the reduction of available water for groundwater recharge, frequent floods, overall degraded quality of water available for human consumption and other purposes like fisheries loss and revenue loss in particular areas affected by degradation of lakes in urban areas.²¹

III. Preservation through the Lens of Sociological Jurisprudence

The functional viewpoint of law cradles the central theme of sociological jurisprudence. The social facts and the underlying sociological study of legal developments are the major driving force behind the interpretation and execution of laws. This aspect was emphasized by Roscoe Pound.²² The core problems from this viewpoint with respect to conservation of lakes lie in the lack of or inadequate awareness among people in aspects of environmental laws and regulations; their correlated rights and duties in this regard; the adverse effect of this pollution; and finally, the correlation of economic yield from conservation of these lakes. Thus, from the sociological perspective, the rise in awareness of the people would provide the needed social driving force for proactive contribution and effective implementation of environmental norms in the society. As per this perspective, the isolated approach of government policies is hampering the very conservation for which these policies are formulated. Thus, an inclusive approach by raising people's awareness is a viable alternative in this regard.

In traditional societies, water conservation was seen as a duty rather than a right. Several years old inscriptions on temples of Pudukkottai, Kovilpatti and Mannarkovil attest the same.²³ In most traditional systems, water conservation was an emotional affair; for instance, in the Pandya Empire, constant supervision, responsibility delegation and community participation were ensured *via* Mahasabha, which was elected on the basis of local community participation. Extraction in a systematic manner from water bodies took care of the local terrain as well as their preservation. The maintenance cost of these lakes was defrayed by the allocation of fishing rights in them. Every able-bodied elder was expected to take part in community preservation of lakes,

²¹ *Supra* note 18.

²² E.V. Walter, "Legal Ecology of Roscoe Pound" 4 *University of Miami Law Review* 178 (1950).

²³ Pradeep Chakravarthy, "Conserving Water, the ancient way: on temples and drought management", *The Hindu*, July 20, 2017, available at: <https://thehindu.com/opinion/op-ed/conserving-water-the-ancient-way/article19309530.ece> (last visited on Oct. 7, 2020).

and in case of a natural disaster the whole community would come together to mitigate its impact. Thus, it was not the king but rather the community that ensured continuous water preservation and the best practices of treating water as a community resource, which framed the socio-ecological framework for lake conservation in the traditional times.²⁴

A socio-ecological framework consists of a myriad of variables like resource viability, its availability, the analysis of concerned stakeholders, the extent of inclusion of socio-economic groups in the planning process, the involvement of government networks, the feasibility of public-private partnership and the amount of leadership to combat urban lake degradation. This integrated framework implies that individual heterogeneity within the community does not necessarily point to an isolated solution to this problem, rather imbuing a sense of rejuvenation, reclamation and restoration of this common property resource (hereinafter referred to as ‘CPR’) is foreseeable if the implementation of such a framework builds on the backbone of the present generation, being the responsible carriers of these scarce resources for the future generations. These CPRs, unlike the public goods, are scarce in their availability, and in urban areas the rate of extraction of such resources far exceeds the rate of their restoration. The successful implementation of a socio-ecological model without considering the above aspects is impossible.

IV. Legal Regime of Lake Conservation and Bottlenecks in Policy Implementation

India lacks a specific Central Legislation for lake conservation. Nevertheless, conservation of water bodies entails various policies, rules, and State Legislations.²⁵ A brief discussion of the same is enunciated below. The Water Prevention and Control of Pollution Act, 1974,²⁶ was enacted to prevent the disposal of untreated sewage into water bodies. The Municipal Solid Wastes (Management and Handling) Rules, 2003, provided for proper collection and disposal of municipal waste by the designated authorities. The efficient handling of such wastes is aimed at cleaner water bodies and consequentially efficient lake conservation.

The beneficence of water bodies was sought to be protected by the National Water Policy (hereinafter referred to as ‘NWP’), 1987. It, however, overlooked the aspect of conservation of

²⁴ *Ibid.*

²⁵ Amandeep Kang, “Briefing Paper: Legal, Institutional and Technical Framework for Lake/ Wetland Protection” CSE 1-14 (June 2013), available at: <http://data.opencity.in/Documents/DocumentCloud/Wetland-Protection.pdf> (last visited on Oct 25, 2020).

²⁶ The Water Prevention and Control of Pollution Act, 1974 (Act No. 6 OF 1974).

water bodies.²⁷ In response to this, the revised water policy NWP, 2002, was formulated.²⁸ National water Board constituted under the policy recognized private participation in the field of water management. However, the negligence in the treatment of water as a common property resource and the non-substantial fulfillment of market demands for water resulted in the failure of this policy.²⁹ This led to the adoption of a new water policy, NWP, 2012, which aimed to provide a holistic approach for water preservation, and sustainable development of ecology.³⁰ Even though the National Water Policy 2012 provides the best field practices, improved irrigation techniques, and sustainable resource management, it failed to balance policy with practice.³¹ In fact, “there is virtually no serious research on water policy in governmental institutions at either the center or the state institutions”³² Also, if the policy-practice nexus was achieved, NWP, 2012, would not reiterate the “need for basin-level planning, RBOs, and IWRM without first examining why it has not happened in the last 25 years, between 1987 and 2012...”³³

In the 1980s the Centre-State collaboration resulted in the National Wetland Conservation Programme, 1983 (hereinafter referred to as ‘NWCP’).³⁴ It was a step taken in close lines with the Ramsar Convention on wetlands.³⁵ India became a signatory to the convention in the same year it entered into force, *i.e.*, 1982. For the protection of urban lakes from encroachment and pollution, the Ministry of Environment and Forests developed the National Lake Conservation Plan (hereinafter referred to as ‘NLCP’), 2001.³⁶ The cost-sharing mechanism was developed between Centre-State under the plan, for implementing actions aimed particularly at urban lake conservation, yet “the majority of the funds provided under the government schemes such as

²⁷ *Supra* note 25 at 5.

²⁸ *Supra* note 27.

²⁹ Ramaswamy R.Iyyer, “Approach to a New National Water Policy”, *The Hindu*, Oct. 29, 2010, available at: <https://www.thehindu.com/opinion/lead/Approach-to-a-new-national-water-policy/article15795556.ece> (last visited on Oct 7, 2020)

³⁰ Ministry of Water Resources, “National Water Policy”, available at: http://mowr.gov.in/sites/default/files/NWP2012Eng6495132651_1.pdf (last visited on Oct. 7, 2020).

³¹ Chetan Pandit and Asit K. Biswas, “India’s National Water Policy: feel good document, nothing more” 35 *International Journal of Water Resource Development* 6 (2019).

³² *Id.* at 10.

³³ *Ibid.*

³⁴ Ministry of Environment, Forest and Climate Change, “National Wetland Conservation Programme”, available at: <https://envfor.nic.in/division/national-wetland-conservation-programme-nwcp> (last visited on Oct. 7, 2020).

³⁵ *Supra* note 3.

³⁶ *Supra* note 25 at 6.

NLCP projects have been spent on high cost technological solutions and beautification around a water body rather than on ecological restoration and improvements in water quality.”³⁷

The shortage of effective implementation and application of international obligations persists despite thirty-seven notified Ramsar sites being in India. Consequently, Wetlands (Conservation and Management) Rules 2010 were notified under the Environment (Protection) Act, 1986, which aimed at curtailing waste dumping, preventing setting up industrial establishments near wetland areas, checking manufacture of dangerous or hazardous substances, requiring prior permission for the discharge of effluent wastes, *etc*³⁸. The 2010 rules have now been replaced by the Wetlands (Conservation and Management) Rules, 2017,³⁹ which provide for a National Committee in place, *i.e.*, the Central Wetland Authority, at the national level and the State Wetland Authority, at the state level. These rules broadly cover the provisions which were outlined in the 2010 regulations, namely, the effluent treatment before its disposal, anti-encroachment measure to protect the wetlands, *etc*.⁴⁰

The draft rules published by the Union Ministry of Environment, Forest, and Climate Change (hereinafter referred to as MoEFCC) in 2016, faced criticism with regards to the functioning of state authorities.⁴¹ Under the Wetlands (Conservation and Management) Rules, 2017, wide discretionary power is vested with State wetlands Authority for determining “wise-use” of wetlands to restrict activities on such wetlands. The directions issued by such authorities for wetland conservation are non-binding.⁴² Also, on February 7, 2015, a single protection program for wetlands and lakes was approved by the Cabinet Committee on Economic Clearance, to be operational in the 12th-period plan to promote better synergy and lesser administrative conflicts

³⁷ *Supra* note 36.

³⁸ Ministry of Environment and Forests, Government of India, “Central Wetlands (Conservation and Management) Rules 2010”, *India Water portal*, Dec. 10, 2010, available at: <https://www.indiawaterportal.org/articles/wetland-conservation-and-management-rules-ministry-environment-and-forests-2020> (last visited on Oct. 7, 2020).

³⁹ Ministry of Environment, “Central Wetlands (Conservation and Management) Rules, 2017”, *India Environment Portal*, Sept. 26, 2017, available at: [http://www.indiaenvironmentportal.org.in/files/file/Wetlands%20\(Conservation%20and%20Management\)%20Rules,%202017.pdf](http://www.indiaenvironmentportal.org.in/files/file/Wetlands%20(Conservation%20and%20Management)%20Rules,%202017.pdf) (last visited on Oct. 7, 2020).

⁴⁰ *Id.*, rule 4.

⁴¹ Mayank Aggarwal, “Government’s draft wetland rules draw flak from environmentalists”, *Live Mint*, April 11, 2016, available at: <https://www.livemint.com/Politics/dLly5IPG6Hw3rZqJpgIQML/Governments-draft-wetland-rules-draw-flak-from-environmentalists.html> (last visited on Oct. 7, 2020).

⁴² Neha Sinha, “Reconsider the Rules: on 2017 Wetland Rules”, *The Hindu*, Dec 21, 2017, available at: <https://www.thehindu.com/opinion/op-ed/reconsider-the-rules/article22085813.ece> (last visited on Oct. 25, 2020).

for a holistic multidisciplinary approach with common regulatory policy frame.⁴³ Thus, the NWCP and NLCP were clubbed into one programme called National Plan for Conservation of Aquatic Ecosystem, 2015.⁴⁴ This centrally sponsored scheme aims at smooth administrative functioning via comprehensive guidelines for the restoration of both lakes and wetlands.⁴⁵ In 2019, the Central Government directed priority restoration of 130 wetlands under this program.⁴⁶ Hence, the implementational efficacy of this programme is yet to be tested.

Few states have also come up with specific legislation for water conservation. The indirect stimulus to lake conservation comes from the Kerala Conservation of Paddy Land and Wetland Act, 2008, which provides a skeletal framework for the preservation of wetlands, preventing its conversion and promoting sustainable ecological balance.⁴⁷ The Act was recently modified to allow construction of establishments, but the same is permitted in a regularized manner.⁴⁸

Another legislation, *i.e.*, the Karnataka Lake Conservation and Development Authority (hereinafter referred to as KLCDA) Act, 2014, stated in its objects that it was constituted “to protect, conserve, reclaim, regenerate and restore lakes to facilitate recharge of depleting groundwater by promoting an integrated approach with the assistance of concerned government departments, local and other authorities”.⁴⁹ It took over urban lake conservation, primarily within the limits of municipal corporations and the BDA, while the remaining lakes were covered under Karnataka Tank Conservation and Development Authority (KTCDA) Act, 2014.⁵⁰ The authority under the KLCDA Act was obligated to take an integrated approach to prevent lake

⁴³ Soma Basu, “Wetlands and lakes will now be protected under single new conservation programme”, *Down To Earth*, July 4, 2015, available at: <https://www.downtoearth.org.in/news/wetlands-and-lakes-will-now-be-protected-under-single-new-conservation-programme-40297> (last visited on Oct. 7, 2020).

⁴⁴ *Ibid.*

⁴⁵ TNN, “130 wetlands to be restored on priority”, *Times of India*, Sept. 7, 2019, available at: <https://timesofindia.indiatimes.com/india/130-wetlands-to-be-restored-on-priority/articleshow/71017950.cms> (last visited on Oct. 25, 2020).

⁴⁶ *Ibid.*

⁴⁷ The Kerala Conservation of Paddy Land and Wetland Act, 2008, available at: <http://sanitation.kerala.gov.in/wp-content/uploads/2017/07/the-kerala-conservation-of-paddy-land-and-wetland-act-2008.pdf> (last visited on Oct. 25, 2020).

⁴⁸ “Grant of Permission for Construction of Building in Wetland”, *Panchayat Guide*, Aug. 9, 2018, available at: <https://blog.panchayatguide.in/2018/08/09/grant-of-permission-for-construction-of-building-current-position-as-on-12022016/> (last visited on Oct. 8, 2020).

⁴⁹ The Karnataka Lake Conservation and Development Authority Act, 2014, Statement of Objects and Reasons, Para. 1.

⁵⁰ K.V. Aditya Bhardwaj, “Government signs lake amendment”, *The Hindu*, April 1, 2018, available at: <https://www.thehindu.com/news/cities/bangalore/governor-signs-lake-amendment/article23404400.ece> (last visited on Oct. 25, 2020).

encroachment, undertake environmental impact assessment, improve ecological habitat, reduce the menace of siltation and promote community awareness as well as participation in all these acts.⁵¹ This Act barred certain activities of industrial creation or expansion, discharge of untreated sewage, municipal solid waste and carrying on of any other activities in a manner that violates the norms provided by the state government⁵². Also, the infringement of these directions invited strict action with imprisonment up to five years and a fine of up to twenty thousand rupees.⁵³ Contravention under certain circumstances even provides for arrest without warrant.⁵⁴ The Act in totality sets forth stringent actions and strict penal provisions to ensure the effective protection of lakes.

However, in 2016 the repeal of the KLCDA Act, 2014, and the handing over of lake conservation to minor irrigation departments under a single consolidated KTCDA Act was criticized as a politically motivated move.⁵⁵ This unwelcome move gave the green card to the real estate sector to legally carry out the exploitation of urban lakes.⁵⁶ Unlike the 2014 KLCDA act, the amended KTCDA act, 2018 failed to emphasize on community participation for lake conservation, a move which further made the environmentalists disbelieve in the new policy. Also, the KTCDA, under the 2018 amendment, was given sweeping power to allow construction activity without seeking approval of the State Government.⁵⁷ This power was subject to only one limitation that the carrying capacity of the tank shall remain unhampered. Since there was no fixed criteria to measure a lake's carrying capacity, "conservationists fear that the government is virtually letting lakes be acquired"⁵⁸ for construction purposes.

The realization that a solid democracy paves its roots from sound governance of villages formed the basis for the Constitution (Seventy-Fourth Amendment) Act, 1992 (hereinafter referred to as

⁵¹ The Karnataka Lake Conservation and Development Authority Act, 2014, Statement of Objects and Reasons, Para. 1, s. 5

⁵² *Id.*, s.14.

⁵³ *Id.*, s.25.

⁵⁴ *Id.*, s.33.

⁵⁵ *Supra* Note 50.

⁵⁶ *Ibid.*

⁵⁷ Bosky Khanna, "Sweeping powers to KTCDA mean govt has sold out lakes", *Deccan Herald*, June 22, 2018, available at: <https://www.deccanherald.com/city/sweeping-powers-ktcda-mean-govt-has-sold-out-lakes-676267.html> (last visited on Oct. 25, 2020).

⁵⁸ *Ibid.*

74th Amendment).⁵⁹ Before this amendment, the silence of Constitutional provisions, except for Entry 5 to the State List, made the municipal governance weak. This resulted in frequent encroachment or supersession of their power by certain State Government agencies. Hence, part IXA of the Constitution was formulated, which enunciated constitution, powers and functions, duration, and other aspects related to municipalities, to ensure smooth functioning institutions of local self-governance.⁶⁰ The boundaries of such powers were demarcated by the State Legislature to help these municipalities achieve requisite socio-economic development.⁶¹ Accordingly, eighteen subjects were added to the 12th schedule for this purpose.⁶² These subjects enunciated a wide range of powers in the hands of municipalities, including regulation of water supply for various purposes, governance of public health sanitation, and the protection of the environment in general, for the welfare of the local public.⁶³

However, the interplay of financial and administrative inefficiencies vocalizes the implementation failure of the 74th amendment. Mayor is only a ceremonial head in most municipalities, whereas the state-appointed Commissioner enjoys substantial executive powers. Also, parastatal state government agencies in their autonomous functioning hold no accountability to the local municipalities. Despite the existence of these local authorities, the Developmental Authorities under the state determine the land use regulations. Further, the creation of special purpose vehicles (hereinafter referred to as SPV) under the Smart Cities Mission of the Central Government allows the State government to delegate decision-making power of local bodies to the CEO of the SPV.⁶⁴ Hence, instead of autonomously working as the third tier, the powers of municipalities often prove toothless.⁶⁵

The failure of NWPs is often attributed to “lack of pragmatism, lack of sincerity, and a lack of commitment by all parties. Many of the provisions suggested by NWPs may be conceptually

⁵⁹ The Constitution (Seventy-Fourth Amendment) Act, 1992, available at: http://mohua.gov.in/upload/uploadfiles/files/74th_CAA13.pdf (last visited on Oct. 7, 2020).

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² Hemant Singh, “List of items under the Twelfth Schedule of the Indian Constitution”, *Jagran Josh*, April 4, 2018, available at: <https://www.jagranjosh.com/general-knowledge/list-of-items-under-the-twelfth-schedule-of-the-indian-constitution-1522835122-1> (last visited on Oct. 25, 2020).

⁶³ *Ibid.*

⁶⁴ Mathew Idiculla, “The Missing Tiers”, *The Hindu*, June 14, 2018, available at: <https://thehindu.com/opinion/op-ed/the-missing-tiers/article24156744> (last visited on Oct. 25, 2020).

⁶⁵ *Ibid.*

attractive but are not practical ideas for the Indian social, economic, cultural, and political conditions”.⁶⁶ Thus, replicating international water management systems without adjusting them to nuances of one’s own nation might create more problems than render any advantage.⁶⁷ Also, the lack of requisite personnel hits the effective implementation of specific state legislation. These legislations envisage wide and diverse powers to the authorities. However, the absence of a regulatory framework for monitoring the policy execution, irregular field inspections, absence of periodical surveys, and the presence of a weak framework of conservation programmes largely hamper the effective implementation of these legislations.

An illustrative trajectory of the situation of lakes in a few states, despite the existence of several policies and legislations enlisted above, also presents a pessimistic picture. For instance, Kashmir, which attracted several tourists to its Dal lake, presents a gloomy picture of lake conservation. Pollution at Dal lake exceeds the prescribed limits considerably, and the lake has shrunk significantly.⁶⁸ Similarly, the Jal Mahal Lake, another major tourist destination in Jaipur, has been intoxicated by highly toxic effluent and is damaged to almost an irreversible state.⁶⁹ The horrifying incident of fire eruption in Bellandur lake in Bangalore consequent to discharge of untreated sewage in the lake show the extent to which this issue of urban lake conservation and restoration goes overlooked.⁷⁰ Bellandur’s failure in managing solid waste and lack of a sewage management plan explain repeated incidents of Bellandure lake catching fire. Additionally, the lakes in Bangalore have faced additional wrath of increased froth, despite a siphon system installed by Bangalore Water Supply and Sewage Board.⁷¹ Thus, the lakes in Bangalore city suffer from ineffective implementation and monitoring mechanisms, despite specific state legislation in place.

⁶⁶ *Supra* note 31 at 11.

⁶⁷ *Ibid.*

⁶⁸ Saptarshi Dutta, “Srinagar’s Iconic Dal Lake Is Battling Pollution From Untreated Sewage”, *NDTV*, Sept. 25, 2017, available at: <https://swachhindia.ndtv.com/srinagars-iconic-dal-lake-is-battling-pollution-from-untreated-sewage-12231/> (last visited Oct. 26, 2020).

⁶⁹ TNN, “Jal Mahal lake turns toxic, says pollution board report”, *Times of India*, Nov. 1, 2017, available at: <https://timesofindia.indiatimes.com/city/jaipur/jal-mahal-lake-turns-toxic-says-pollution-board-report/articleshow/61376992.cms> (last visited on Oct. 25, 2020).

⁷⁰ Sushmita Sengupta, “Bellandur Lake: a story of toxic froth and fire”, *Down To Earth*, Feb. 18, 2017, available at: <https://www.downtoearth.org.in/coverage/environment/bellandur-lake-a-story-of-toxic-froth-and-fire-57139> (last visited on Oct. 25, 2020).

⁷¹ Staff Reporter, “Lake frothing goes from bad to worse”, *The Hindu*, May 29, 2017, available at: <https://www.thehindu.com/news/national/karnataka/lake-frothing-goes-from-bad-to-worse/article18596038.ece> (last visited on Oct. 26, 2020).

VI. Judiciary to Environment's Rescue

The Constitution of India enshrines that “the state shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.”⁷² A similar Fundamental Duty is imposed under part IV A of the Constitution as well.⁷³ Also, article 253 empowers the parliament to make laws for the enforcement of international obligations, and accordingly, the international environmental treaties and conventions can become a part of national legislation via this parliamentary prerogative. The ambit of article 21 enshrining the right to life is exhaustive and includes the right to a clean and pollution-free environment.⁷⁴ The concerned authorities can be mandated via a writ of mandamus by the superior court to act as per the specific Act.⁷⁵ The judiciary has played a proactive role in environmental conservation and propounded important doctrines over the years that not only widened the ambit of fundamental right enshrined under article 21 of the Constitution, but also contributed significantly to addressing environmental concerns.

The judiciary propounded the doctrine of absolute liability in matters of inherently dangerous activities,⁷⁶ and it also propounded the polluter pays principle⁷⁷ to make the defaulting party liable for the environmental loss. The precautionary principle calls for cautious and balanced environmental measures.⁷⁸ Further, the Apex Court used the concept of public trust doctrine to vocalize public ownership of common property resources.⁷⁹ This creates a sense of belongingness with the environment among the masses. Also, the balanced approach to environment and development in a way that non-renewable resources are preserved for the use of future generations was propagated by the apex court in *Rural Litigation and Entitlement Kendra v. State of UP*,⁸⁰ while laying down the principle of sustainable development.

⁷² The Constitution of India, art. 48A.

⁷³ *Id.*, art. 51(A)(g).

⁷⁴ *Subhash Kumar v. State of Bihar*, AIR 1991 SC 420; *Virender Gaur v. State of Haryana*, AIR 1995 SC 306.

⁷⁵ *Supra* note 25 at 5.

⁷⁶ *Union Carbide Corporation v. Union of India*, AIR 1992 SC 248.

⁷⁷ *Vellore Citizens Welfare Forum v. Union of India*, AIR 1996 SC 2718.

⁷⁸ *Ibid.*

⁷⁹ Vijay K. Sondhi, “The Doctrine of Public Trust”, *Oak Bridge*, Feb. 20, 2018, available at: <https://www.oakbridge.in/uncategorized/the-doctrine-of-public-trust/> (last visited on Oct. 8, 2020).

⁸⁰ AIR 1985 SC 652.

The Apex court reiterated the right to pollution-free water and air as a facet of the fundamental right to life enshrined under article 21 in *Subhash Kumar v. the State of Bihar*.⁸¹

Recognizing the importance of international norms, the Supreme Court has stated, "...once these principles are accepted as part of the customary international law, there would be no difficulty in accepting the, as part of the domestic law...".⁸² Thus, the court acknowledged that the municipal laws must be interpreted harmoniously with the principles which have acquired the status of customary international law.

This need to ensure compliance with the international standards in matters of environment, especially the conservation of wetlands, was also recognized in the *Calcutta Wetland Case*⁸³ as a part of fulfilling India's obligations under the Ramsar Convention. The court in this particular instance granted injunction recognizing that development could not be allowed at the cost of degradation of wetlands, given the myriad of economic and non-economic benefits wetlands have to offer. However, the various courts do not place a blanket prohibition on all developmental activities. Instead, they call for sustainable development by recognizing the conflicting interest and balancing them as regards the circumstances under which such development occurs. In *People United for Better Living in Calcutta v. East Kolkata Wetlands Management Authority*,⁸⁴ the contention before the Apex Court was that a water treatment plant was being established within the wetland. This establishment contravened East Kolkata Wetland Act 2006. However, the court allowed the development considering the fact that the development was to occur only in a minuscule portion of the wetland area. Further, the plant would bring down arsenic pollution in the area. The court also directed establishment of a monitoring mechanism to ensure balancing of environmental costs against public benefits.

In *M.C .Mehta v. Union of India*,⁸⁵ the carrying on mining activities in the vicinity of Bhadkal and Surajkund lakes was in question before the Supreme Court. On the recommendation of the Haryana Pollution Control Board with regard to ecological disaster caused by unscientific mining, the Haryana Government stopped mining work in a radius of five km of Badkal and

⁸¹ AIR 1991 SC 420.

⁸² *Supra* note 74.

⁸³ *People United for Better Living in Calcutta v. State of W.B.*, AIR 1993 Cal. 215.

⁸⁴ 2009 (3) CHN 124.

⁸⁵ 1996 AIR 1977; JT 1996 (5) 372.

Surajkund lakes.⁸⁶ To resolve the dispute between the State Government and mine operators, the Supreme Court sought recommendations of National Environmental Engineering Research Institute (hereinafter referred to as NEERI). Based on this report, the court concluded that unattended debris left post-mining operation causes irreparable environmental damage, degrading the quality of water in these lakes. Also, such operations in the vicinity of tourist resorts adversely impact the hydrological balance of the region. On the grounds of reasonableness, the court made the area within two kilometers of the tourist resorts of these lakes a no mining zone. Along with this, the mining companies were directed to follow the NEERI guidelines.

Further, the court directed against any construction work within the radius of five kilometers of these lakes. The State was directed to convert open areas into green belts.⁸⁷ This case shows a classic illustration of judicial intervention for the preservation of the environment in general and the quality of lakes in particular.

VII. Lake Restorations and Conservations: An Illustrative Trajectory

The judicial vigilantism and policy formulations will be of no use unless lake conservation becomes a reality. The grass-root policy implementation calls for an integrated approach. No matter how robust the legal framework is or how sound the judicial decisions and directions in this regard are, unless this normative paradigm transforms into actuality, all the efforts will go in vain. With this premise in mind, this section probes the trajectory of a couple of lake conservation efforts.

Fateh Sagar Lake in Udaipur, highly contaminated with pollution, presented a dismal state of affairs. However, the voluntary drive by citizens, led by Jheel Sanrakshan Samiti, to remove water hyacinth and to clean the lake resulted in the court's intervention.⁸⁸ Consequently, the court asked the government to take the requisite efforts in a fixed time frame. But it was

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ *Rajendra Kumar Razdan v. State of Rajasthan*, 2007(2)WLN351.

essentially the active participation by the general public that resulted in the conservation of this lake.⁸⁹

Similarly, the community drive led by residents of L&T South City, Bengaluru pressurized Bruhat Bengaluru Mahanagara Palike (BBMP), to take measures for restoration of Kaikondrahalli Lake in Bangalore which gained much needed momentum in 2010. Along with it a tree plantation drive with the help of BBMP, neighborhood donations were also organized. Participation by the citizen watch groups along with rainwater harvesting, promotion of recreational activities, setting up of sewage treatment plant and sensitization to the protection of valley between lakes Kaikondrahalli and Kasavanahalli from the deleterious effects of urbanization, are the combined factors that propelled lake restoration efforts. Even the Karnataka Lake Conservation and Development Authority (KLCDA) encouraged the role of Lake Watch Committees in this regard.⁹⁰ Major propulsion to lake preservation in the city came from a ruling issued in 2011 by the High Court of Karnataka⁹¹ when the “Preservation of Lakes in Bangalore: A Report by Karnataka High Court Committee” was prepared to provide a model for lake preservation, community participation, anti-encroachment drive, among others.⁹²

The Success story of the revival of Puttenahalli Lake in Bengaluru can be replicated in Bangalore itself as well as in the rest of India. The rapid industrialization has caused huge deterioration of lakes in Bangalore. Given the present rate of deterioration, the Government needs to work in tandem with citizen scientists or Community Nature Watch Groups. The consumer watch group in this instance, *i.e.*, the Puttenahalli Neighbourhood Lake Improvement Trust (PNLIT), saved the lake from complete eutrophication. They worked in close association with the government authorities to remodel the lake. The core members of PNLIT were joined by environmentalists and other like-minded citizens in transformation of this lake from a dumping site to an environment friendly area.⁹³ This did not happen overnight, the able-bodied citizens, along with PNLIT and civic authorities, pitched in their full support. The CSR funding came

⁸⁹ Amita Bhaduri, “Water warriors at Work”, *India water Portal*, Aug. 24, 2016, available at: <https://www.indiawaterportal.org/articles/water-warriors-work> (last visited on Oct. 31, 2020).

⁹⁰*Ibid.*

⁹¹*Environment Support Group v. State of Karnataka*, 2013(4)KarLJ134.

⁹²*Ibid.*

⁹³ Vishnupriya Hathwar, Madhurima Das, *et. al.*, “Community Participation in Conservation- Case Study of Puttenhalli Revival” *Community Participation in Revival and Conservation of Lakes*, (Jan. 2019), available at: https://www.researchgate.net/publication/330666578_COMMUNITY_PARTICIPATION_IN_CONSERVATION-CASE_STUDY_OF_PUTTENAHALLI_LAKE_REVIVAL (last visited on Oct. 21, 2020).

from Delloite and VMware. A green cover was built around the lake and the lake now attracts several species of migratory birds. Thus, the materialization of the three-pronged strategy (discussed below) resulted in commendable results. “What began as a neighborhood initiative has spurred citizen-driven rejuvenation drives across localities. It is a small step in environmental conservation to conserve our rapidly vanishing wetlands. The success story of this People’s Lake is worth a closer study and replication not just in Bengaluru but everywhere.”⁹⁴

VIII. Conclusion and Suggestions

Given the huge ecological importance of wetlands and the alarming influence that hegemonic globalization brings on the exploitation of natural resources, an effective implementation framework is the pressing need of the hour. Deforestation induced anthropogenic pressure has welcomed excessive agricultural runoff and siltation in the water bodies. The successful implementation of water-related State Legislation on the ground involves interplay of various factors that need to be synchronized. Astringent check and monitoring mechanism of the concerned authorities is called for while ensuring implementation of the various legislative Acts. Also, where these state Acts lack in providing field inspection or proper appeal provisions, the same must be incorporated via requisite amendments. A provision for periodic conservation programmes, is called for in the State Acts. Additionally, they must explicitly incorporate essential international and national water conservation obligations.

Efficient rainwater harvesting, optimal utilization of traditional knowledge of the local community, a comprehensive grievance redressal mechanism and proper utilization of funds allocated by the Centre for environmental conservation programs can help the nation meet international commitments made under Ramsar Convention and other international environmental conventions in the true sense. As was evidenced in the Bangalore lake restoration program mentioned above, community participation and mass awareness resulting in sensitization to environmental goals can surely make the authorities proactive in fulfilling their obligations under this national and state legislation.⁹⁵ The authorities need to shed their lethargic cloaks for which the push can come from the community, the environmental think tanks and periodic judicial review. Achievement of global environmental justice in its true sense requires a

⁹⁴*Ibid.*

⁹⁵*Ibid.*

constant focus on the long-term objective of a balanced approach towards both inter-generational as well as intra-generational equity.

Effective lake conservation effort vocalizes a counter-hegemonic approach, *i.e.*, a bottom-up approach is needed where the power of implementation is delegated even at the lowest levels. The municipal corporations would then become proactive in their leadership induced responsibility. Privatization *in toto* of the urban lake conservation system would not justify a common property resource outlook of the lakes; rather, a holistic three-pronged approach is the need of the hour. The conservation of Puttenahalli Lake provides an excellent example of this strategy.⁹⁶The private sector can effectively help in infrastructural development for optimal sewage treatment and disposal mechanisms; and the government can provide requisite manpower to deal with technical and administrative nuances. This shall help the balance of the motive of private profit maximization vis-à-vis consumer welfare preservation. Lastly, active participation from the local community would ensure the sustainable development of this CPR. Thus, a polycentric arrangement will be the key to the successful implementation of this counter-hegemonic order.

The peri-urban areas, with their peculiar features, call for an interdisciplinary approach and support Ostrom's Social-Ecological System (hereinafter referred to as SES).⁹⁷Ostrom's system is not new in the socio-ecological field, but its implementation in urban lake conservation on an all India scale is yet to be tried.⁹⁸The variables for this SES system will, in turn, be affected by a lot of factors, namely, the depth of the lake, its coverage area, its location, the width of the physical-ecological barrier, the extent of social barriers (including the presence of stakeholders and the requisite infrastructural capital), amongst others. Studies previously conducted have already revealed that a bottom-up approach, with active community involvement, does indicate a strong correlation between active community participation and lake restoration.⁹⁹ However, this correlation does not necessarily imply causation, *i.e.*, community participation without requisite infrastructure and administrative checks in place can do more harm than good.

⁹⁶*Ibid.*

⁹⁷ Jessica M. Vogt, G.B. Epstein, *et.al.*, "Putting the E in SES : unpacking the ecology in the Ostrom socio-ecological system framework" 20 *Ecology and Society* 55 (2015).

⁹⁸ H. Nagendra and Elinor Ostrom, "Applying the socio-ecological framework to the diagnosis of urban lake commons in Bangalore, India" 19 *Ecology and Society* 67 (2014).

⁹⁹ *Ibid.*

The over-emphasis on metropolitan planning and ward committees under the 74th Constitutional Amendment does not reflect the true spirit of local self-governance. Too much reliance on ward committees attaches an elite fixation to local municipalities, which shrinks the space for varied political interests to breathe. The problem lies with the singular municipality system, as opposed to the three-tier functioning at the village panchayats. This means that a thorough revamping of the urban model of local self-governance is the need of the hour. This revamping calls for greater accountability, a better delegation of powers and better implementation strategies.¹⁰⁰

The government, local community and private players are closely knit in this strategy (as was seen in the Puttenahalli Lake example).¹⁰¹ The informed local community participation is as significant as a strong government network monitoring and assessing such participation. The sewage treatment facilities and engineering maneuvers along with the time-bound achievement of lake restoration and preservation could be left to the private players. The present rules and guidelines for urban water preservation lack a firm hand in implementation because the bottom-up empowerment is lacking so far. Continuous evaluation of the entire process, along with periodical feedback and appraisal for the positive work, needs to be put in place. Model lake laws will continue being soft laws if the civil and penal liabilities on paper fail to transform into continuous evaluative implementation mechanisms. Re-routing of sewage water, removal of accumulated silt, and prevention of land encroachment are not possible without government finances, and the government finances cannot be made available properly unless the local authorities get sufficiently incentivized to remain up-to-date with the lake conservation plan. The sewage treatment of Kaikondanahalli Lake with the local community- Municipal Corporation working in tandem sets a wonderful example of a counter-hegemonic mechanism that is proposed for this SES system.¹⁰² The socio-ecological peculiarities are often overlooked when lake restoration gets wholly contracted to private players. These peculiarities can be tailored to a specific community's need only if the local community, social workers, researchers, media and naturalists, all work in a synchronized fashion. Continuous monitoring via PILs, public awareness programmes, and proactive involvement, including *suo moto* action by the respective

¹⁰⁰ *Supra* note 64.

¹⁰¹ *Supra* note 93.

¹⁰² *Supra* note 89.

Courts, can address the concerns of intra-generational equity adequately. Also, this will reduce regulatory hibernation in peri-urban areas significantly.

Thus, the polycentric arrangement in the counter-hegemonic order within this SES system can solve many implementation riddles in the urban and peri-urban areas via the three-pronged participatory mechanism. This would ensure that the implementation policy caters to the dynamics of the particular socio-ecological landscape. The bottom-up responsibility delegation ensures better downward accountability, informed mass participation, comprehensive feedback mechanism, strengthening of local ombudsmen system and a proactive people's court for rapid alternate dispute settlement. These suggestions shall provide a silver lining in the dark cloud to ensure optimal conservation of urban lakes.