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Citizen Intercession Towards Safeguarding the Vishwamitri River, India

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ABSTRACT: As rivers in the urban areas of developing economies are subjected to various policies that result in environmental pressures, it is prudent to examine the administrative attitudes and decision-making processes to learn how concerned community members and experts can shape and guide such policies and plans. This paper provides a description and summative evaluation of the intercession process by the Concerned Citizens of Vadodara (CCV) in the case of the Vishwamitri Riverfront Development Project (VRDP) and post-VRDP phase. This inductive approach records the entire interplay of stakeholders' decisions and actions through interviews with key decision-makers and analysis of events and communications amongst the stakeholders. Emerging patterns are correlated through content and frequency analyses and are discussed in terms of values, structure, and processes. The case of the VRDP is significant, as the multipronged, persistent intercession by the CCV not only resulted in the withdrawal of the project but set a precedent in the judicial realm towards the scientific understanding of rivers in India. It provides lessons for making course corrections in similar cases and demonstrates that diligent involvement of local citizens and experts along with application of legal tools is crucial for shaping socio-ecological interventions concerning rivers in urban areas.

KEYWORDS: Citizen Action, Riverfront Development, Urban Governance, Socio-ecological Interventions, Environmental Litigation, India

Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.

Margaret Mead, in Kerpen (2016)

Power concedes nothing without a demand. It never has and it never will.

Frederick Douglass, 1857, in Armstrong (2024)

INTRODUCTION

Development policies and interventions in India, particularly those related to infrastructure (NITI Aayog, 2018), increasingly impinge upon freshwater ecosystems, especially rivers (Dutta et al., 2018). While basic services and facilities are required for citizens' overall well-being, these services are often conceived, planned, implemented, and operated without the genuine involvement of the community, and they are repeatedly unmindful of the ecosystems' integrity (Follmann, 2017). In India, one of several popular interventions is related to urban rivers (NIUA, 2021), mainly in the form of riverfront development projects as city-level infrastructure and urban recreational spaces. The Sabarmati Riverfront

Development Project (SRDP),[1] Ahmedabad, is a prototypical example (Pessina, 2018). Similar projects have been initiated for various rivers in cities across the country (Yadav, 2021).

Riverfront development projects in India are often incongruous with existing contexts and tend to treat rivers as a series of isolated, disconnected stretches. The river is regarded as a water conduit between the two banks, which can be tamed and manipulated to suit socio-economic ends (Dutta et al., 2018). Moreover, riverfront planning practices exhibit a top-down approach, employing heavy engineering on ecologically significant rivers that provide various ecosystem services to the region's communities. Such projects claim to provide the cities with ample new opportunities for real estate development and public spaces – but at the cost of the ecological integrity of the river as a system and the well-being of the have-nots (Yadav, 2021; Simons et al., 2024).

The process of project conception, plan formulation, and plan approval for implementation often display only perfunctory procedures to solicit public and subject experts' opinions and suggestions (Dilay et al., 2020). Often, these top-down decision-making mechanisms tend to belittle community engagement (Mathur, 2012; Follmann, 2016; Shunglu et al., 2022), which means that cognizant citizens and subject experts frequently become aware of such initiatives very late in the process, after much deliberation time and resources have already been expended. Soft advocacy then becomes ineffective and legal activism becomes the only remaining viable means to intercede (Arnstein, 1969; Doyle, 2005; Nayak, 2015; Jesani, 2018).

The VRDP in Vadodara is no exception. The purpose of this paper is to evaluate the case of a multipronged citizen intercession process towards safeguarding the (integrity of the) river system in the conflicted socio-ecological context of the VRDP. By critiquing the existing governance and development model, such an inquiry explicates power domination, social ideologies, and economic disparities through the examination of interconnected issues in an existing situation with the goal of mobilising change (Fuchs, 2015; Patton, 2015; Neuman and Tucker, 2022). The environmental conflict resulting from the proposed riverfront development project is identified, both in content and in process. The lessons from this case can aid in gaining insight into systemic problems and fostering effective processes for the governance and planning of similar urban-area river systems in India and beyond.

RATIONALE

The negative impacts of development activities on natural and human systems have been well established since the early 20th century and globally accepted since the 1960s (Carson, 1962; Leopold, 1966; Gadgil and Guha, 1992). The use of riverine areas as dumping grounds and encroachments leading to flooding, waterlogging (Shaji and Macwan, 2017), water scarcity, and pollution have been prime examples of this phenomenon. In India, the post-liberalisation (1991) government initiated economic policies that have been driving development projects by both public and private sectors (Follmann, 2017; Pessina, 2018); these have impacted economic growth as well as the environment. Many of these projects are water-related infrastructure, especially those affecting rivers.

Riverfront development projects

The rapid growth and expansion of cities have resulted in a dearth of open spaces for recreational needs, and river edges are considered a potential way to meet this demand (NIUA, 2022). To this end, riverfront development (RFD) projects have been promoted by various authorities. The project proposals have been popular but have also generated debates and resistance (Dutta et al., 2018). The SRFDP is widely considered a flagship project for riverfronts, and many similar proposals have now been implemented,

[1] The Sabarmati Riverfront Development Project in Ahmedabad, India, was begun in 1997, and the first phase was opened to the public in 2014. See https://sabarmatiriverfront.com/background/.

as seen, for example, on the Chambal River in Kota, the Gomti River in Lucknow, the Tapi Riverfront Development and Rejuvenation Project, Surat, and the Mula-Mutha Rivers in Pune. While the SRFDP has faced "episodes of contention" (Pessina, 2018) mainly relating to the eviction and displacement of vulnerable communities, the project has largely exhibited a strong alignment between experts, government agencies, and the private sector (Mathur, 2012). In most of the ensuing RFD projects, however, the river seems to be treated as an "assemblage of tubes and pipes with commodified openings for leisure and entertainment", devoid of the understanding that rivers are seasonal ecological systems with floodplains as integral components (Baviskar, 2011).

Ecological considerations of river systems have largely been the purview of environmental and landscape planning (Forman, 2005; Marsh, 2010) but remain neglected in mainstream urban governance and planning practices in India, where land is perceived as a mere commodity for human imprint (Jasanoff, 2021). Since ecosystems are vast and complex, any interventions associated with them should require multi- and inter-disciplinary deliberations (McHarg, 1969; Steiner, 2008; Fageha and Aibinu, 2013). This indicates the need to include subject experts from various sub-domains of ecological and sociological disciplines. The underlying principles of advocacy and pluralism (Davidoff, 2000) and democratic participatory planning approaches also reinforce the involvement of multiple experts and stakeholders, to increase the robustness of the planning processes and outcomes. The absence of participatory processes and the adoption of the 'technocratic' way of exclusionary planning, where the power of technology results in problem-solving through a highly engineered society (Fainstein and Fainstein, 2000; Mathur, 2012), has resulted in increasing environmental woes and social inequity (Blühdorn and Butzlaff, 2020).

Governance

The ongoing urbanisation process in India poses the challenge of balancing economic development and environmental protection. Cities, seemingly created entirely by and for humans, are not considered part of a natural ecosystem (Follmann, 2017). This is reflected in the recent initiatives taken by various governmental departments, including the *River Centric Master Planning and Urban River Management and Planning* (TCPO, 2020), the *Report of the Committee Constituted for Formulation of Strategy for Flood Management Works and River Management Activities* (NITI Aayog, 2021), the *Urban Wetland/Water Bodies Management Guidelines* (NMCG and SPA, 2021), the *River Centric Urban Planning Guidelines* (TCPO, 2021), the *Strategic Guidelines for Making River-Sensitive Master Plans* (NIUA, 2021), and the *Pathways to Amrit Kaal: Envisioning and Realising a New Future for Indian Cities* (MoHUA, 2023). These guidelines and strategies are drafted by 'high-level expert committees' with the aim of providing urban recreational spaces and amenities, flood mitigation, and urban infrastructure. However, the participation of citizens and local subject experts is very limited in the making and implementation of these plans. This leads to objections, debates, and misgivings, resulting in environmental and social movements.

Environmental movements in India

Grassroots initiatives involving civil society organisations, academia, and urban intelligentsia have been powerful in questioning conventional paradigms in land administration and development, changing minds towards rethinking environmental impacts and gains, and ensuring representation in decision-making (Ako, 2013; Nagendra, 2018; Shah et al., 2019). Environmental movements have historically been linked with pollution issues and social injustice, including uneven access to resources and the displacement of people, especially in the so-called developing world (Ako, 2013; Shiva, 2016). India has a long history of regional and national environmental movements that highlight socio-ecological conflicts, of which the Chipko movement is most recognised (Guha, 2024). However, most of the movements related to rivers have been reactive and related to dams and their adverse impacts on local ecologies and vulnerable communities (Mehta, 2003; Vos, 2024).

Recent movements have adopted practices like litigation and lobbying (Gadgil and Guha, 1994; Nayak, 2015; Jesani, 2018) as a response to the neo-liberal development interventions that render local ecologies vulnerable and diminished. They have been primarily reactive to proposed and implemented projects and have adopted a wide range of strategies (discussions, coalition-building, dissemination, and advocacy) and processes (local meetings, protest marches, petitions, litigation, radio broadcasts, and education) (Vos, 2024). In the case of the Sabarmati River, there were collaborations between faculty, students, and researchers from various leading institutions of the city, a number of workshops, seminars, public hearings, and a research-based documentary film. However, the social movement ended with the shift of focus to the allotment of housing for the vulnerable and evicted (Mathur, 2012). In the case of the Mula-Mutha River in Pune, a lawsuit opposing the proposed riverfront project (which was along the lines of the SRFD) was filed with the National Green Tribunal (NGT)[2] but was dismissed, the tribunal stating, "Despite lacunae in TOR, MOM and project description in EC [environmental clearance] letter, we find that overall system has enabled impact identification, assessment, preparation of EMP and recommending appropriate additional measures as EC conditions. EIA is an evolving process" (Sarang Yadwadkar and Pushkar Vijay Kulkarni vs M/S Pune Municipal Corporation and Ors. 2022).

Cases of movements related to smaller, local river systems, community actions and environmental movements that promote the restoration of canalised, diverted, depleted and/or polluted rivers, are much less studied (Vos, 2024). While civil society organisations (CSOs) have been acknowledged for their critical role as watchdogs, studies focussing explicitly on their role in urban environmental governance are rare (Follmann, 2016). In a scenario where government environmental regulations for the protection of rivers tend to be permissive and monitoring is often neglected, CSOs engage in the protection of rivers (Vos, 2024).

In this context, it is pertinent to recognise the socio-ecological dimensions of the VRDP project, the stakeholders' positions, the impacts on local and regional river ecologies, and the competence of the governance system tasked with managing projects of such magnitude. Ecological research and practice are critical to fostering positive relationships between people and ecosystems (Trisos et al., 2021), while improving citizen participation is widely regarded as the hallmark of democratisation (Blühdorn and Butzlaff, 2020). India being the largest democracy (World Bank, 2021), with Gujarat as a leading state in planning and development practices (Jain, 2019), it would be reasonable to expect continuous engagement of citizens and subject experts across all scales of planning and implementing any venture – in this case, the Vishwamitri River system. This paper analyses the relevance and significance of citizens' involvement in socio-ecological interventions for river-related development in a democratic context.

APPROACH AND METHODS

This paper attempts to decipher a particular social-ecological phenomenon in significant urban decision-making processes through inductive inquiry (Patton, 2015; Neuman and Tucker, 2022). We have adopted the summative evaluation approach (Patton, 2015) to evaluate the effectiveness of the citizen intercession phenomenon, and our insights are derived through the lenses of values, structure, and process (Denzin and Lincoln, 2005). Furthermore, the complexities and dynamics of citizen intercession can be best understood by scrutinising a case in detail (Ragin, 1992; Patton, 2015). The case study approach allows us to examine various dimensions of the relationships between governance and socio-

[2] The National Green Tribunal was established on 18/10/2010 under the National Green Tribunal Act 2010 for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources. It is a specialised body equipped with the necessary expertise to handle environmental disputes involving multi-disciplinary issues (https://www.greentribunal.gov.in/about-us).

ecological phenomena. Together, this case study approach enables us to discern patterns and derive lessons for similar cases throughout India and emerging economies worldwide.

A case study of citizen intercession

This evaluation of citizen intercession in the case of the government-initiated VRDP qualifies as an empirical case of a 'bounded process' (Ragin, 1992) with embedded cases of various stakeholders (Patton, 2015). This paper discusses the Concerned Citizens of Vadodara (CCV)'s[3] intercession, a process that took over ten years, of which we, the authors were an integral part. It identifies key hurdles, breakthroughs, and lessons for safeguarding the Vishwamitri River and similar rivers. This approach enables us to reveal interrelationships amongst policies, stakeholders, processes, and outcomes of a specific socio-ecological phenomenon in a systematic manner. Being a qualitative study, it relies on content and frequency analyses of observations, documentation, and interviews in order to gain insights into the interplay of governance and stakeholder interventions.

Various interactions, processes, and negotiations have facilitated the collection, organisation, and analyses of our data, which we collected through observation during meetings and conversations. Confidential, semi-structured interviews with key officials (bureaucrats, political representatives, lawyers, and executive officers) and with local subject experts (botanists, zoologists, and planners), all of whom were appreciably associated with the project, provided greater understanding of the ground conditions related to the river ecosystem and the development processes. Insights from these interviews were paired with analysis of documents, project reports, citizens' letters, responses from the authorities, directions from the various courts, legislative acts, images, maps, drawings, and timelines of events. Together, these methods help reveal the role and efficacy of the subject experts and concerned citizens who interceded with the government on behalf of the river ecosystem.

This being a critical qualitative inquiry of a politically susceptible case, however, we acknowledge that the data sources are limited, subjective, and sensitive in nature. It should also be stated that, due to the close-knit and intense nature of this intercession process, its applicability to larger segments of rivers or larger river basins that traverse multiple administrative and political jurisdictions may be challenging.

The following section describes the intercession process in detail.

Case study area

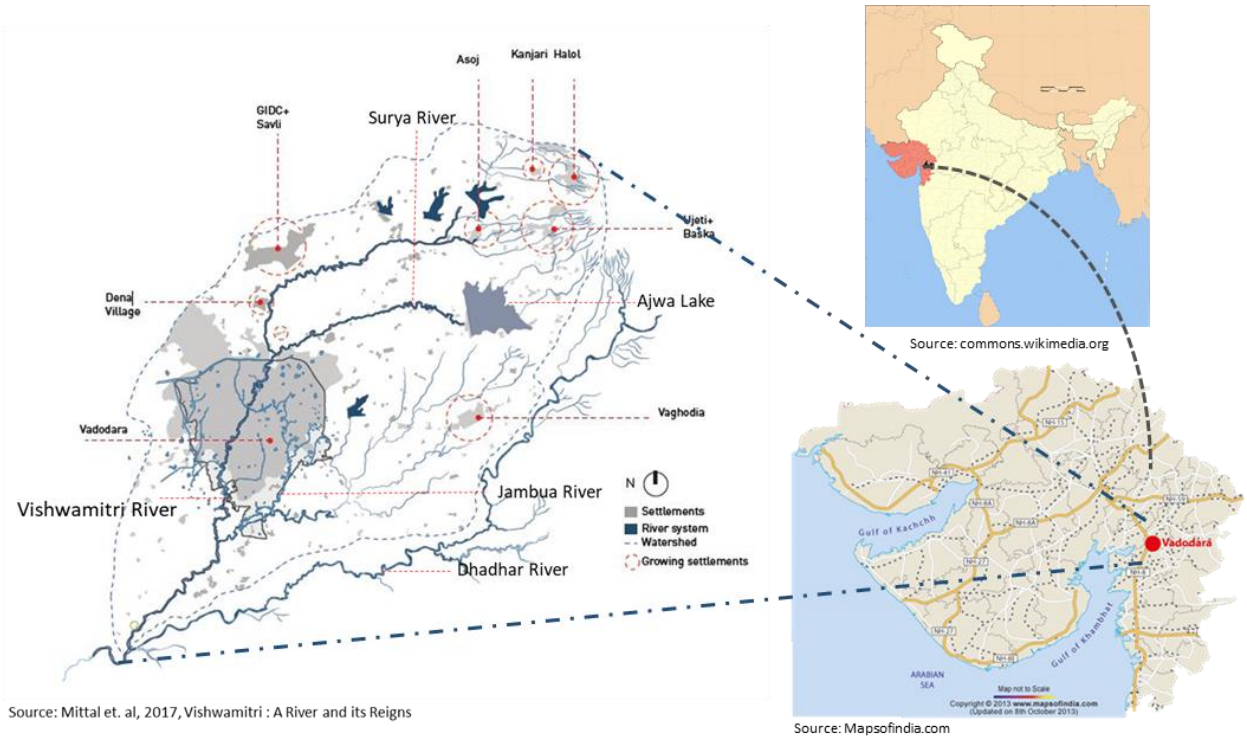
The Vishwamitri River watershed is situated on the fertile plains between the Mahi and Narmada river basins. The river has its origins in the Pavagadh Hills, meanders through the heart of Vadodara, and meets the Dhadhar River at Pingalwada, Gujarat (Figure 1). The meanders and ravines are due to the topography, which gently slopes from the north-east to the south-west. The Vishwamitri has a number of tributaries that drain storm- and floodwaters into the river; the city of Vadodara is also interspersed with wetlands and human-made ponds interconnected with stormwater ways, sustaining the biodiversity and ecological stability of the city environs.

The city, and in particular the river, is home to a rich habitat of flora and fauna, with approximate 750 plant species (Gavali, 2018), 10 species of amphibians, 19 species of reptiles, 79 species of birds, 10 species of mammals, and 260 Schedule-I 'mugger'[4] crocodiles, amongst many others (Devkar, 2018). This natural heritage functions as the city's lungs and affords its citizens a much-needed natural setting for their physical, mental, and emotional well-being, in addition to the various other ecosystem services it offers. This river system has also been the subject of various interventions, the prime one being the VRDP.

[3] This informal group of citizens and subject experts are signatories to the many letters that were addressed to the concerned authorities.

[4] The 'mugger' is a Scheduled Species and is listed as a vulnerable (VU) species on the IUCN Red List since 1982. The species is native to India, Iran, Sri Lanka, Pakistan, Nepal, and (possibly extinct in) Bangladesh.

Figure 1. Vishwamitri watershed.



CASE NARRATIVE

Contextualising the case study area

The Vishwamitri River has come into the limelight mainly due to occurrences of flooding, the presence of crocodiles, the dumping of solid waste and sewage, so-called 'clean-up drives', and riverfront proposals. Over the last few decades, the river environs have witnessed multiple instances of damaging interventions – such as formally approved permanent encroachments by developers – as a result of ad hoc zoning changes and apathy amongst the educated classes. Activities such as the pre-monsoon removal of riverbank vegetation; the filling of ravines with municipal solid waste (MSW) or construction and demolition (C&D) waste; and the modifying of bank topography to re-section and realign the river course all lead to more land being claimed for development. These interventions reflect a lack of ecological awareness and a policy that results in severe alterations to the ecological structure and functions of the river system.

Almost all these activities were the initiatives of political representatives (Representative-1, 2021) or officials in local government, with negligible input or assistance from subject experts. Various groups – academics, think-tanks, organisations, citizen-experts, and environmental activists[5] – have undertaken studies and activities to highlight and address the degrading conditions of the river environs. The next sub-sections exemplify the interactions amongst these stakeholders upon the announcement of the VRDP in 2014.

[5] The Maharaja Sayajirao University of Baroda (MSU), Community Science Centre (CSC), Gujarat Ecology Society (GES), Pariyaavaran Surakhsha Samiti (PSS), Society for Clean Environment (SoCLEEN), Pagdand, Concerned Citizens of Vadodara, Naturewalk Group, Vaho Vishwamitri Abhyaan.

The Vishwamitri Riverfront Development Project (VRDP): The proposal phase

The Vadodara Municipal Corporation (VMC) engaged a renowned planning and design firm (hereafter known as 'the Consultant') as the VRDP project consultants. They presented their *Interim Feasibility Report* in June 2014, followed by revisions in December 2014, January 2015, and December 2016. Of the entire river length of 80 km, from its head in Pavagadh to its outfall into Dhadhar (GERI, 2014), this project addressed only a 17.5 km stretch within the administrative limits of the VMC. The proposal endorsed heavy engineering for the VRDP, employing diversion channels, extensive concrete diaphragm (retaining) walls and embankments, re-sectioning and realignment of the river, paved walkways, barrages, crocodile parks, and intercepted trunk sewers within the riverbank area (HCP DPM Pvt. Ltd. 2016).

The release of the *Interim Feasibility Report* in June 2014 prompted the second author of this paper to draft a petition letter. With over a hundred signatures, it was submitted to the then-chief minister and other authorities, alerting various citizens and decision-makers of the flaws in the proposal. It asked them to reconsider their conceptualisation of the VRDP model, which had been planned along the same lines as the SRDP, and requested a more collaborative approach and holistic planning. This was picked up by academics, subject experts, students, activists, and CSOs who were also appalled at the way in which the proposed VRDP was conceived. Though their petition fell on deaf ears, it was an ice-breaking initiative that triggered the citizen intercession movement (see Figure 2). As the word of dissent spread, various entities, with the involvement of knowledgeable and concerned citizens, undertook initiatives to highlight and address the issues. In response, the VMC put together an advisory committee of local citizens and experts, but its suggestions did not yield any modifications to the VRDP proposal. The VRDP became a common topic of deliberation in both the office and the field.

An informal meeting of a few design professionals and academics with the Consultant to advocate for an alternative approach did influence the revised *Final Feasibility Report* in December 2014 (HCP DPM Pvt. Ltd. 2014-12). It included phrases like "holistically and comprehensively develop", "rejuvenate the ecology of Vishwamitri River", and "restore the connection with the people". However, the concrete proposal remained unchanged. The proposal was also critiqued by the CCV, other environmental groups, and later a team of graduate students from the University of Michigan (Mittal et al., 2017). The common themes of their appraisals included:

Approach to planning and design – The project objectives of flood control, a pollution-free river, strengthening of riverbanks, retention and replenishment of river-water, and the creation of safe habitats for crocodiles depicted a myopic and fragmented approach to addressing a cohesive, dynamic river system. The river was treated as an isolated stretch instead of an integral part of the watershed. The proposal failed to differentiate between 'flooding' and 'water logging', and the river was perceived as simply a channel to move water out of the city and a provider of public places for the people. Moreover, most of the laws, acts, and various directives from the concerned authorities were flouted, the main ones being the *Environmental Impact Assessment Notification* of 2006 under the *Environment (Protection) Act* of 1986, which requires environmental clearance; the *Environment (Protection) Act* itself; the *Wildlife Protection Act* of 1972, which requires permission to intervene in areas inhabited by endangered wildlife; the *Wetlands Conservation and Management Rules* of 2010, which monitor the depletion of wetlands through encroachment; the *Municipal Solid Wastes Management and Handling Rules* of 2000, which mandate the proper handling and disposition of waste; the *Water Prevention and Control of Pollution Act* of 1974, which requires all sewage to be treated so as to not pollute the rivers; and the *74th Amendment to the Constitution of India*, which empowers local bodies to undertake planning initiatives through metropolitan and district planning bodies.

The re-sectioning and realignment of the river would have cut off the riverine structure, including wetlands and oxbows, from the main river, thereby reducing the blue-green network area. The illustrations indicated increased paved areas, which would have added to the urban heat island effect, while the trees and vegetation on the paved areas would have had difficulty surviving without a

connection to soil. MSW and C&D waste were to be strategically dumped into the ravines, ponds, and wetlands to reclaim land for the VRDP.

Ecosystem health and wildlife – The proposal failed to recognise the ecological values and scientific concepts of riparian edges, ravines, ponds, wetlands, oxbow lakes, tributaries, and waterways as natural flood-control mechanisms. Sewage interceptors were to line the length of the river and within both banks; the construction process of laying the interceptor lines would have destroyed the entire ecological structure and its habitats. The deformation and degradation of the river system would have adversely impacted the river ecosystem and the allied ecosystem services, specifically water quality and groundwater tables. And the loss of natural vegetation and riparian edges would have resulted in the loss of habitats and biodiversity, affecting the Scheduled Species of mugger crocodiles, turtles, monitor lizards, birds, and insects.

Community and social concerns – In addition to the destruction of aquatic and terrestrial habitats, many settlements within vulnerable sections of society would also have been disturbed. These settlements are within the riverine areas that get periodically inundated. Ironically, the plan was to rehabilitate them in the same locations, making them more susceptible to disasters and diseases.

These critiques led to the conclusions that (a) the SRDP model was not appropriate for the VRDP; (b) a project of such significance should have proactively engaged the local expertise and citizenry, fostering inclusive policies and planning in order to avoid a loss of financial, human, and natural resources; and (c) such projects can become exemplars, both for collaborative environmental planning and design and for progressive governance based on ecological sciences and participatory processes.

The following section describes the legal battle which took place beyond this stage.

NGT case and Interim Order

An ecologically significant venture such as the VRDP required environmental clearance (EC) from the State Environmental Impact Assessment Authority (SEIAA), amongst other approvals. However, the Municipal Corporation had already begun to implement many individual projects – like public housing, slum rehabilitation schemes, and commercial buildings – within the identified project area under the Town Planning Schemes.[6] Within a span of 15 months (see Figure 2), a small group of city-based environmentalists sent numerous detailed letters to the concerned authorities speaking against this work, which was progressing without due process or assessments. There were no formal responses from any of the recipients of these letters, except for one perfunctory stakeholders' meeting to hear the grievances.

The absence of any response from the authorities, a questionable environmental impact assessment (EIA) report, and the continuation of construction projects on the ground resulted in the local environmentalists filing a public interest litigation (PIL) against the VRDP in April 2016 with the National Green Tribunal (NGT), Western Zone Bench, Pune. It is important to note that some of the subject experts were in regular communication with the litigants in order to enhance the petition and arguments. Some of the main demands of the lawsuit were that the concerned authorities 1. stop all or any direct or indirect construction activities within the project area of the VRDP, including demolition, dredging, digging, filling, levelling, construction, etc. being conducted by the VMC until the due processes of the EIA and the EC were accomplished; 2. stop the untreated municipal sewage being dumped into the river; 3. immediately remove the municipal waste which had been dumped into the ravines of the Vishwamitri River over previous decades and take steps to prevent further dumping of the same; 4. immediately stop any new dumping activities – the government's own and those of private entities – that were filling up ponds and any other associated water bodies; 5. submit the present status report of the VRDP, including a

[6] Town Planning Schemes, as per the *Gujarat Town Planning and Urban Development Act*, are a land pooling technique towards the implementation of development plans.

transparent reporting of the money spent for the project and activities on the site carried out until that point in time; 6. take all necessary steps for restitution of the project area to its status quo ante; and 7. obey such further and other orders that the Tribunal might deem fit in the cause of justice.

The purview of the lawsuit was not only contention against the VRDP; it also addressed the river as a system. In response, the NGT issued an Interim Order (Rohit Prajapati & Anr. versus Secretary, MOEF & CC and Ors. 2016) in May 2016, restraining the local authority from proceeding with "any construction and development activity within the area of the VRDP". This conveyed a telling message to civil society: The judiciary is an effective medium of communication between citizens and the authorities and a valuable tool for addressing socio-ecological issues. Figure 2 shows a temporal analysis of the intense nature of the communications and events described.

Post-NGT Interim Order

The Municipal Corporation seemed to ignore the Interim Order, as the degradative activities continued, so to monitor the order's implementation, the NGT directed the SEIAA and the CCV to submit a report based on their ground inspections with the applicants. The report revealed that the EIA requirements were being flouted wherever the construction activity continued in the VRDP area despite the Interim Order. Frequent changes in the administrative leadership led the CCV to persistently reiterate the implications of the proposed VRDP and advocate for a more ecological and inclusive approach.

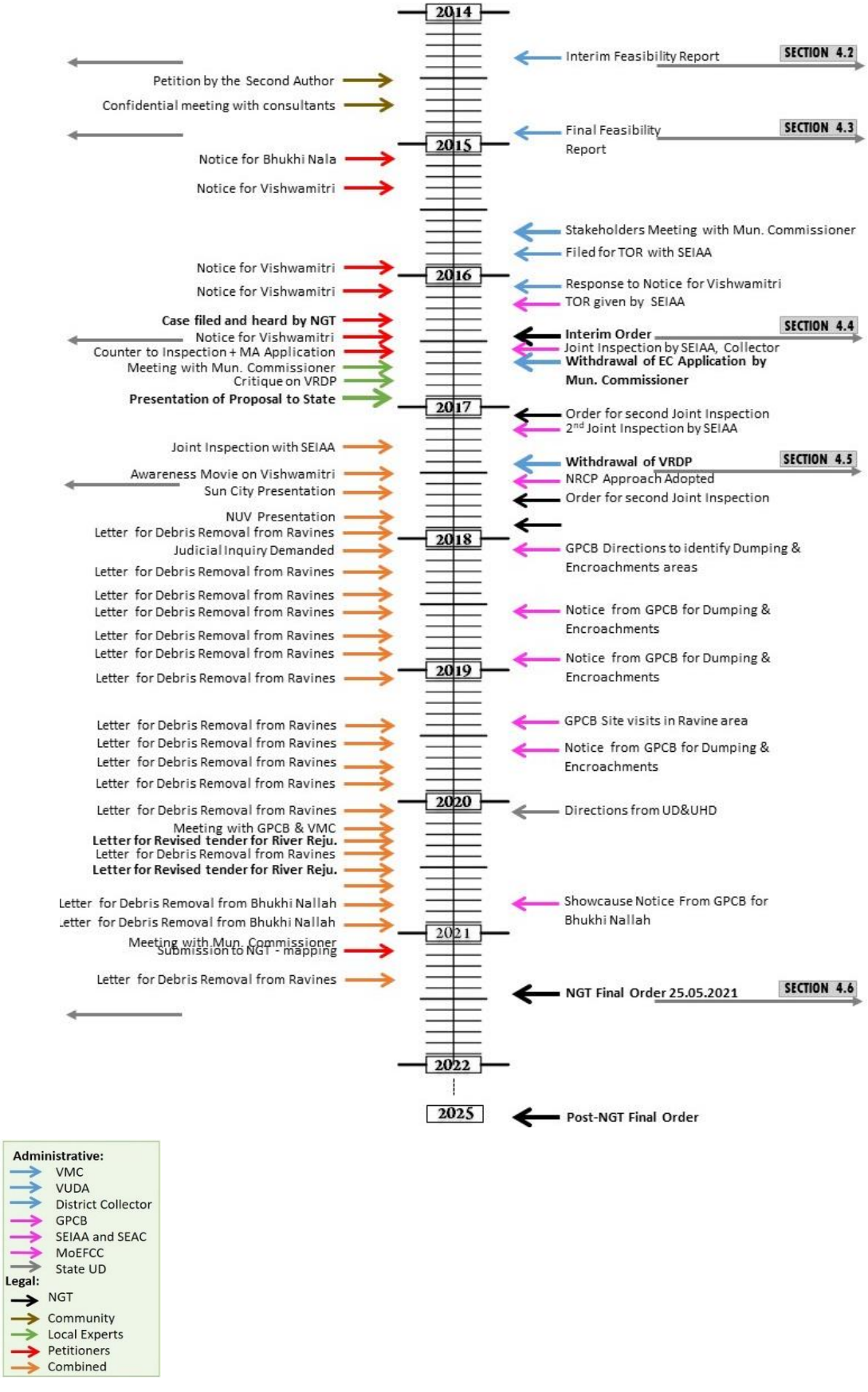
A combination of the Interim Order, the SEIAA report, and meetings with local expert groups led to the eventual withdrawal of the EC application. At this point, there was a change in administrative leadership, and the new Municipal Commissioner initiated weekly citizen and expert meetings to discuss the various ongoing projects and initiatives, public participation being the purview of the newly introduced 'smart City Mission'.[7] The Vishwamitri River environs were one of the main items under discussion. These meetings provided a platform for knowledge sharing through multi- and inter-disciplinary dialogues and debates, networking amongst like-minded entities, and interactions between the local authorities and citizen experts.

Concurrent to these meetings, individual citizen groups, CSOs, and local experts pressed the authorities to reconsider the planning and design approaches by their consultant towards the Vishwamitri River. Prominent media coverage of the litigation process from the initial legal notice to the Interim Order may have triggered the advisors to the state, the local administration, and elected entities to meet with a larger delegation and consultant team with the goal of slowing down and reaching an amicable decision for a way forward. The meeting was held in November 2016, when a citizen group, composed of academics, CSOs, and subject experts, capitalised on this opportunity to voice their concerns over a lack of ecological sensitivity towards the river. This stimulated the local and state authorities to pause and look back (Bureaucrat-2, 2019). As a result, the local experts were offered an opportunity to devise a conceptual alternative proposal with access to limited data and physical premises. However, it included the stipulation that they complete it in three weeks on a voluntary basis!

The group, including the authors, enthusiastically accepted this challenge, and the primary author offered to coordinate the efforts. Due to professional or academic conflicts of interest, some excused themselves from participating in this voluntary process, but a smaller, motivated multidisciplinary group enthusiastically engaged in crafting a proposal for better alternative. After a laborious three-week period of long days and intense deliberations, the group presented their analysis and alternative conceptual master plan in December 2016. This helped establish the possibility of an alternative, ecological approach towards river protection and rejuvenation, recognised the strengths of a multi- and inter-disciplinary approach through citizen engagement, and acknowledged the role of local expertise and know-how (Bureaucrat-1, 2021; Bureaucrat-2, 2019).

[7] The Smart City Mission is an initiative of the central government.

Figure 2.Summary of key events.



Withdrawal of the VRDP

The alternative proposal based on ecological approaches was well received by the state and bureaucracy, but the municipal officials appeared disinterested in the ecological approach. The alternative proposal-making process instilled in us a renewed confidence to further the cause and spread awareness amongst the wider civil society. Smaller sub-teams addressed various aspects of awareness, advocacy, and alternatives and relayed communication with the authorities and media. The CCV also pressed the authorities to facilitate multiple intense workshops between the Consultant and the subject experts to ideate feasible alternatives. These efforts did not lead to any conclusive decision, and they fizzled out due to non-responsiveness from the Consultant and the authorities. They did strengthen the subject experts' confidence in the ecological design route, however.

The initiatives also included a short video, titled 'save Vishwamitri, Save Vadodara',[8] and presentations to various clubs, residential societies, academic institutions, religious groups, and civic organisations. A Supreme Court Order of February 2017 (Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. 2017) relating to the appropriate treatment and disposal of sewage and industrial effluents, to be implemented by the NGT, added to the pressure on the authorities. Consistent, cumulative efforts of citizens and the applicants of the NGT case along with the presence of various Scheduled Species, including crocodiles, and their habitats resulted in the withdrawal of the VRDP by the VMC in its entirety in mid-2017 (Bureaucrat-1, 2021; Representative-1, 2021). The judicial case, however, continued.

After the withdrawal, the authorities pursued the river rejuvenation objective through the central government's National River Conservation Plan (NRCP) initiative. To advance this initiative, they recruited an environmental consultant under Vadodara Smart City Development Ltd. to integrate the inputs of the local subject experts and also devise a water supply and sanitation plan in accordance with the NRCP guidelines, formulating the proposal with the assistance of local officials (Bureaucrat-1, 2021).

However, lack of a scientific definition – or even a clear delineation – of rivers became a constraint to further work. For mapping the watershed and smooth implementation of the project, a special project vehicle was proposed to be the key nodal agency at the local level, including a consortium of local and other experts for implementation of goals and guidelines. A Project Monitoring Unit was proposed at the state and district levels for an efficient and streamlined decision-making process (Pradhan, 2021). It is pertinent to note that all this was an outcome of a genuine engagement during the intercession process. Despite the withdrawal of the VRDP project in its totality before the NGT, the litigants pursued the case for the restitution of the Vishwamitri River to its status quo ante. It is at this juncture that the weekly meetings between the VMC and subject experts ceased to take place. In response, the informal collaborative process between the few experts and the litigants was expanded to include a larger group of local subject experts, forming the Concerned Citizens of Vadodara (CCV) in November 2017.

[8] https://www.youtube.com/watch?v=A_Rhrys5rjA

Table 1. Summary of letters by the Concerned Citizens of Vadodara (CCV).

Themes		25.12.17	03.01.18	04.01.18	17.02.18	14.06.18	02.07.18	20.10.18	22.11.18	30.01.19	22.05.19	14.06.19	28.08.19	02.09.19	20.01.20	17.04.20	22.04.20	26.06.20	09.07.20	06.10.20	13.10.20	20.04.21
Approaches	Stop all degradatory activities	√	√	√				√		√	√								√	√	√	
	Redefine development and allied activities										√	√	√	√	√		√			√	√	√
	Paradigm shift in the way we envision, govern, administer, and plan our cities and eco-regions															√	√	√				√
Implementation	Implement applicable rules, orders										√	√	√	√	√	√	√	√				√
Capacity Building	Effective, urban and environmental planning department in the VUDA/VMC												√	√	√	√	√	√				√
	Collaborative working																√	√				√
	Quasi-governmental / Semi Statutory body / Task Force										√		√	√	√	√	√	√	√	√		√
Mapping	Analysis of damage done due to debris dumping and sewage disposal		√										√	√	√						√	
	Floods and waterlogging												√	√	√	√	√					√
	Scientific delineation of river													√	√		√					√
Planning	Regional plan, development plan																					
	Planning as per topography of the city												√	√	√		√					√
	Protect, restore, and nurture the environment	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Waste management plan					√					√		√	√	√	√	√			√	√	√
	Mitigation					√	√					√	√	√	√	√	√				√	√
	Ecological management of storm waters	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Ecological restoration plan for river system	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Revised Tender	Cancel the revised tender in its current form															√		√				
	Prohibit previously hired consultants															√		√				
	Conduct pre-bid meeting															√	√	√				
Investigation	Make accountable and prosecute all concerned departments /authorities / parties	√		√	√			√	√	√			√	√	√							
	Non-implementation of explicit directions												√	√	√							
	Independent judicial inquiry				√																	
Finance	Compensation to all affected due to negligence										√		√	√	√							
	Mobilise adequate funding to include 'non-conventional' efforts																	√				√

NGT final order

Even though the VRDP was withdrawn, degradative interventions continued in the form of construction and dumping. Persistent documentation of the illicit activities by the GPCB and the CCV resulted in numerous letters, 21 to be precise, by the CCV over a period of three and half years (Concerned Citizens of Vadodara, 2018b). The contents of the letters were mostly issues-based updates, reiterative and detailed in nature, and urged the authorities to implement the various orders, directions, rules, and provisions of various applicable legislative acts. The letters also demanded development projects be comprehensively integrated and coordinated amongst the various departments and agencies. They emphasised the use of scientific concepts and methods for effective ecological planning and restoration of the river environs. Another key exigency was to instate and empower a semi-statutory body or task force to guide the authorities in a proactive, transparent, and accountable manner and reinforce the local planning departments with knowledgeable planners and experts from various related fields (Concerned Citizens of Vadodara, 2020a). A consolidated summary of the frequency and highlights of the letters are depicted in Table 1.

The frequent changes in administrative leadership, both at state and local levels, resulted in the divergence and delegation of responsibilities to other departments. The NRCP process for the Vishwamitri River also came to a halt in an ambiguous and abrupt manner, due to lack of coordination and varying perspectives within the leadership, both political and administrative (Pradhan, 2021). The GPCB conducted periodic site visits and issued multiple notices, directions, and show-cause notices to the local authorities to identify the locations and removal of dumped debris and encroachments from natural areas like ravines. In addition to holistic approaches, the letters from the CCV also focused on scientific mapping and delineating the river system and its floodplains, with the extent and impact of flooding. In this phase, politically motivated interests solicited individual members of the CCV to demonstrate the ecological approach through pilot projects and other initiatives in order to capitalise on the heightened interest in such an approach. These initiatives did not come to fruition for political, ideological, and financial reasons.

The outbreak of the COVID-19 pandemic rendered many public and private agencies ineffective, functioning at below-capacity. Communication with the authorities was disrupted and the media became the primary source of news related to imminent political undertakings. Amidst these dire circumstances, a revised tender was announced in March 2020 for *Consultancy for Preparation of Detail Project Report for Master Planning of Rejuvenation and Flood Mitigation for the Vishwamitri River (Vadodara) from the Origin of the River (Pavagadh) to End Point of the River*. This time the river's entire watershed was included, but the proposal was still along the lines of the old VRDP. This announcement at the time of a global pandemic was dismaying, as the tender was announced when everyone was coping with health issues and being vigilant was a challenging task; the CCV voiced its concerns yet again through letters to the entire administration (2020b).

Fortunately, post pandemic, the amenable change in administrative leadership solicited the active participation of the various state, district, and local authorities. In February 2021, the litigants conveyed to the NGT the consent of the VMC and GPCB to collaboratively work towards the mapping of the entire watershed. The final order of the NGT during the hearing of May 2021 had mixed outcomes. The court endorsed the definition of the river as a system of "catchments, floodplains, tributaries, ponds, river-bed, and adjoining ravines which, along with the soils and vegetation on both sides, is the river's natural mechanism to retain the additional water, prevent floods and provide habitat for various species" (Rohit Prajapati & Anr. Versus Secretary, MoEF & CC & Ors. 2021). The NGT aptly interlinked this order with the directives of the Supreme Court Order under the 'Vishwamitri River Action Plan' (Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. 2021). It has acceded to the applicants' appeal for demarcation and protection of the floodplain zone, the plan to maintain the integrity of the river through plantations, the removal of unauthorised structures, and other actions as per the River Restoration Plan.

Even though the order disposed the case with specific policy and action directives, it remained silent on institutionalising a 'semi-statutory body' in the planning and decision-making process. The final order took five years to be issued after the interim one but expected the directives to be fulfilled within just three months! The compliance with the directives is still a work in progress. Furthermore, it has overreliance on a 'River Action Plan' as the basis for addressing complex realities at landscape scales, where the institutional capacity, political will, or scientific mindset are lacking. This reveals the inefficacy of the final order.

Post-NGT final order

The years following the final Order have been years of struggle towards its implementation, in letter and spirit. Continued changes in administrative leadership, ad-hoc interventions in the riverine areas, and the appointment of a consultant to prepare a detailed project report for the entire watershed posed different challenges and provided continued impetus to CCV for engagement with the authorities. Other CSOs like the newly formed Voices of Vishwamitri joined in to raise awareness, especially after the devastating floods of 2024 and the government's hurriedly conceived and implemented plans to mitigate future floods. In sum, the continuing and complex interplay of challenges, breakthroughs, patience, and perseverance lays the groundwork for a separate case study.

RESULTS AND DISCUSSION

Case studies can provide more insight and be better linked with policies and action if they are organised and discussed through themes that reflect the fundamental concepts of riverine and human ecosystems. In order to present that insight and policy linkage, we have grouped our reflection on the case around the three themes of 'values', 'structure', and 'process' (McHarg, 1969; Gunderson et al., 1995; Lyle, 1999; Forman, 2005).

Values

The attitude with which a society – its citizens, politicians, decision-makers, and officials – perceives the river ecosystem becomes the foundation for the type of intervention it will choose for each situation. These attitudes stem from individual and collective, tangible and intangible values that people associate with rivers, including economic, ethical, aesthetic, social, and ecological values. How people recognise and prioritise these values determine, both the issues and their possible solutions. Available technological advancements paired with political expediency can prove to be detrimental when applied without the above-stated values or comprehension of the interplay between complex development projects and systemic problems (Gunderson et al., 1995; Raina, 2015).

Such attitudes become precarious precedents, and technology becomes a medium of conformation, as seen in the replication of India's prevalent riverfront development model. If decision-makers prioritise ecological and democratic values, then their planning policies and efforts may adopt ecocentric, participatory approaches. However, if they prioritise the commodification of resources, then heavy engineering methods are likely to be prevalent. This attitude was exemplified by the VRDP proponents and their Consultant, while the CCV and other CSOs highlighted and questioned such conflicts of values.

Any attempt to craft values-based approaches through dialogue was largely futile and created rifts between the authorities and local experts, necessitating legal interventions. This gap between the local authorities and the citizens remains. Every change in the administrative leadership has brought with it different dynamics, with every officer having their own objectives, understanding, and ways of working (Bureaucrat-1, 2021). The result is anarchic functioning, and it reveals the lack of an institutional setup for values-based systemic functioning within the local administration. This also raises questions about the competency of the officials (Representative-2, 2021) to address complex situations like the

Vishwamitri River and its role in a pluralistic society. Only when a bureaucrat is willing to engage in meaningful discussions with CSOs does a negotiated solution become possible.

Structure

From the narrative, it can be seen that the phenomenon of intercession had a dynamic and effective stakeholder structure. In addition to the inherent values of the river system, the stakeholders – consisting of the CCV, other CSOs, the concerned authorities, the Consultant, the judiciary, and the media – had their own values and processes with associated opportunities and limitations based on their priorities, dedication, expertise, and roles. They influenced one another, resulting in the slow but sure realisation of an effective process. Individual efforts by the various subject experts – in academia, in the field, and in CSOs – were not as effective as when their forces were combined. Each played their part, resulting in the current tacit understanding that an ecocentric approach is the way to move forward. However, potentially influential stakeholders' unwillingness to participate in slow and scientific deliberations, as well as fear of political, legal, and professional implications are, in our experience, major reasons behind the lack of more effective participatory processes and outcomes.

The various administrative departments of the government, comprising both transient bureaucrats and permanent staff at both state and local levels, lacked coordination, communication, and scientific comprehension of the river system. The intra- and interdepartmental delegations demonstrated a lack of accountability for the officers, capacity, and capability of the present administrative structure, which is a weak link affecting river-centric (or ecocentric) planning. As mentioned in some of the above subsections such as, NGT Final Order and as per Representative 1, political expediency and influence also affected the project's purpose and consensus building. The judiciary too had its low points, with understaffed courts, a shortage of Amici curiae (who brief and guide the judges), and transfer of the case to the Principal Bench all contributed to the delay of the final order. That said, the Orders of the NGT played a decisive role in the withdrawal of the project by its proponents (Bureaucrat-1, 2021). All the above influenced, in their own ways, how the project's values and the structure were perceived and negotiated in the process of this case.

Process

Right values, common purpose, and patient perseverance are the key ingredients required to address the idiosyncrasies of the process. Each of the stakeholders had their own challenges and dynamics. Therefore, effective coordination through patient, sensitive handholding fostered the momentum and spirit of the movement, especially at times when the relevant authorities were dysfunctional. This, along with the change in administration, consumed time, energy, and resources, resulting in delays and discontinuities. The synergistic association between the litigants and the local subject experts forming the collective CCV reinforced the efforts of both, making the intercession process more effective.

The diligent tracking of events and the systematic documentation of actions and slipups by the authorities on the ground helped put certain evidence and particulars on record. These proved crucial in the NGT case (argued by party-in-person), helped alter the tone of the court arguments, and increased leverage against the VRDP (Representative-2, 2021). The discipline, perseverance, and values-based perspectives of the CCV maintained the decorum of the process and ensured the continuity of dialogue to address concerns related to river-centric approaches.

The debates and deliberations that occurred during the preparation of the alternative proposal facilitated certain unlearning and relearning processes, which eventually built consensus and resulted in a holistic understanding of the river system. This is a vital step towards participatory, ecocentric planning when combating the sorts of entrenched mindsets reflected in the VRDP (Representative-2, 2021). Since the CCV team worked as volunteers with limited resources, they experienced many delays and roadblocks in terms of availability of data, physical spaces to conduct meetings, and funds. In many instances,

members experienced distractions, ego clashes, insecurities, and backlashes from their primary workplaces and had to either step down or recede into the background.

Undeterred, the team continued to support one another and synergistically channelled their efforts towards awareness, advocacy, and alternatives, strengthening their scientific and legal positions and thereby resulting in a sound and inclusive process. Distinct modes of communication, from meetings, letters, electronic messaging, and visual presentations to legal petitions and affidavits made this case substantial. These were enhanced with relevant scientific, technical, and legal inputs intended to streamline the discussions and assure ecological approaches that would benefit the river system and the larger society.

The letters, as seen in Table 1, were a crucial tool of official communication with the authorities at all levels. They maintained continuity and pressure on the authorities by repeatedly demanding the halting of certain activities, the modification of policies, or the adoption of alternatives for ensuring correct approaches. These recommendations also assisted the authorities in comprehending the complexities of river system planning while offering technical support and guidance. Immediate release of the letters to the media with press notes created awareness amongst the general public and maintained transparency in the process. Unfortunately, the provisions of the 74th Amendment to the Indian Constitution were not pursued by either the authorities or the CCV!

The NGT case was a step to legally addressing issues relating to the river system when the soft advocacy of initial meetings and discussions with the authorities proved futile. It questioned the process of the EIA, the exclusion of Social Impact Assessments, and the EC obtained, seeking stringent action against the concerned officers and offenders. Diligently chronicled records of all consequent proceedings strengthened the case and revealed the incoherencies and ineffectiveness of the governance system. The thoroughness of content, clarity of format, and prompt delivery of the application played a key role in effecting a positive final order from the NGT. It acknowledged the scientific definition of a river and directed the application of such knowledge towards the framing of policies and plans for all rivers.

The above discussion illustrates how the complexities of nature-human interactions can be better understood through the lenses of values, structure, and process. These themes help reveal the perils and power of democratic participation in development projects and explain interconnected issues riddled with power domination and social ideologies affecting mobilisation for change. These observations and lessons embedded in this summative evaluation of the intercession process can be applied and tested in other river citizen intercession efforts.

CONCLUSIONS AND RECOMMENDATIONS

This case study demonstrates the interplay amongst the above-discussed themes of values, structure, and process in the context of small, meandering rivers impacted by rapid changes in landform, land cover, and land use, as well as administrative leadership. There have been many proposals for interventions that significantly impact river ecosystems followed by citizen movements to counter them, but the case of the Vishwamitri ecosystem and the citizens' intercession is unique and exemplary. This is reflected in the insights it has yielded and its key characteristics.

Insights and key characteristics

- River systems, and in particular their flora and fauna, suffer due to the convoluted and sporadic nature of decision-making influenced by political expediency, interpersonal dynamics, and entrenched mindsets, to name a few, with least consideration given to the ecological principles of river systems at the watershed scale.
- The lack of scientific comprehension of a river, an ineffective and archaic land administration and planning system, the absence of appropriate policies and processes, and disinclination towards

reform by the political authorities are a few of the primary reasons for the dire condition of river systems.

- An enormous gap between academia and policy practice exists, where the importance and relevance of ecological knowledge is lacking in top-down decision-based practices and development projects.
- This collective journey of over ten years has managed to establish that early intercession by aware experts is key to advocating for an inclusive and interdisciplinary ecological approach in the face of complex, top-down administration and planning.
- Media, from print to television and radio to the internet, have played a significant and effective role in retaining transparency and generating awareness amongst the citizenry.

These characteristics define various aspects of this intercession process that make it unique and significant.

Efficacy of the intercession process

- The process's efficacy can be primarily attributed to the conscientious, collaborative, and persistent intercession by aware citizen-experts that produced desired outcomes towards safeguarding river ecosystems. It resulted in slow but significant changes to the governance system's status-quo stance.
- In the four years since the NGT final order, intermittent dialogue with the authorities, depending upon their willingness to engage, has helped further the slow process.
- Meetings with the new consultant have helped foster a sense of collaboration, built confidence, and accorded credence to the intercession process.
- Together, all this has compelled the local authorities to acknowledge and accept recommendations by the CCV in order to guide the implementation of the NGT Order. This has helped sustain the struggle towards the implementation of the NGT Order and maintain the needed momentum.

Together, these factors demonstrate a considerable degree of efficacy by the intercession process – the stated purpose of this paper. This experience is significant and unusual in river-related citizens' intercessions in India.

Lessons and recommendations for other similar cases

- Conventional riverfront development projects can be challenged. Well-planned and well-executed judicial interventions; science- and evidence-based academic arguments; continuous dialogue with the authorities, decision-makers, and amongst CSOs; awareness initiatives for the city at large; and proposals for desirable alternatives are relatively more effective than street protests or efforts to appease the powers that be.
- The team undertaking the intercession needs to be interdisciplinary and vigilant and to maintain meticulous records of relevant information that are factually and procedurally correct.
- To stand up for what one thinks is right, individual and collective courage is required, but it is also essential to stay rooted and focused on the task at hand. Mainstreaming a sound research component and continued education initiatives for the existing workforce with the goal of building capacity in the relevant departments is essential. This will go a long way towards strengthening an administrative system so that it can make the right decisions or correct course on questionable decisions and damaging practices.

The lessons drawn from this intercession process can be adapted and applied by concerned and adept teams of citizens to strengthen their own intercession processes and advocate for upholding ecological and democratic values in regard to natural resources such as rivers in developing economies. The qualitative and pragmatic approach adopted in this study helps to derive practical, context-specific solutions and actionable knowledge. It also allows for flexibility in research design and methods, emphasising the importance of understanding the perspectives of those affected by and concerned with the development-related interventions and projects.

In addition, it is pertinent for and incumbent upon the political powers to be open-minded and collaborate with academia, practitioners, and activists to redefine 'development' more holistically. This will help ensure conservation and restoration of riverine systems for future generations. It is hoped that future struggles and research will reveal new insights by integrating, testing, and building upon the lessons derived from this case.

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REFERENCES

Ako, R.T. 2013. *Environmental justice in developing countries: Perspectives from Africa and Asia-Pacific*. New York, London: Routledge.

Armstrong, J.H. 2024. Public participation and social movements in environmental policy and justice. In *The Palgrave Handbook of Environmental Policy and Law*, pp. 1-25. s.l.: Palgrave Macmillan.

Arnstein, S., 1969. A ladder of citizen participation. *Journal of the American Institute of Planners* 35(4): 216-224.

Baviskar, A. 2011. What the eye does not see: The Yamuna in the imagination of Delhi. *Economic & Political Weekly*, 10 December, pp. 45-53.

Blühdorn, I. and Butzlaff, F. 2020. Democratization beyond the post-democratic turn: towards a research agenda on new conceptions of citizen participation. DEMOCRATIZATION, p. 369-388.

Bureaucrat-1, 1. 2021. Public Participation [Interview] (23 06 2021).

Bureaucrat-2, 2. 2019. Public Participation [Interview] (26 08 2019).

Carson, R., 1962. *Silent Spring*. New York: Houghton Mifflin.

Community Science Centre, 2021. Vaho Vishwamiri Abhiyan – VVA. https://cscvadodara.com/project_details.php?c_id=257&name=VmFobyBWaXNod2FtaXRyaSBBYmhpeWFuICh WVkEpICAg

Concerned Citizens of Vadodara. 2018a. Vadodara authorities "least concerned" about environmental destruction along Vishwamitri. https://www.counterview.in/2018/11/vadodara-authorities-concerned-about.html

Concerned Citizens of Vadodara. 2018b. Debris "fill up" 44 lakh sq ft wetland in Gujarat's cultural capital, as Vadodara fares poorly in cleanliness index https://www.counterview.in/2018/07/debris-fill-up-44-lakh-sq-ft-wetland-in.html

Concerned Citizens of Vadodara. 2020b. Vishwamitri project proposal for Vadodara problematic, high-handed, is a rushed attempt. https://counterview.in/2020/04/vishwamitri-project-for-vadodara.html

Davidoff, P. 2000. Advocacy and pluralism in planning. In Fanstein, S. and Campbell, S. (Eds), *Readings in planning theory,* pp. 305-322. Malden: Blackwell Publishers,.

Denzin, N.K. and Lincoln, Y.S. 2005. *The SAGE Handbook of Qualitative Research*. Los Angeles: Sage Publications.

Devkar, D. R. 2018. Riverine Fauna [Interview] (16 05 2018).

Dilay, A.; Diduck , A.P. and Patel, K. 2020. Environmental justice in India: A case study of environmental impact assessment, community engagement and public interest litigation. Impact Assessment and Project Appraisal, pp. 16-27.

Doyle, T. 2005. *Environmental movements in minority and majority worlds: A global perspective*. New Brunswick: Rutgers University Press.

Dutta, V.; Sharma, U.; Iqbal, K.; Adeeba Kumar, R. and Pathak, A.K. 2018. Impact of river channelization and riverfront development on fluvial habitat: Evidence from Gomti River, a tributary of Ganges, India. *Environmental Sustainability* 1: 167-184.

Fageha, M.K. and Aibinu, A.A. 2013. Managing project scope definition to improve stakeholders' participation and enhance project outcome. *Procedia – Social and Behavioral Sciences* 74(2013): 154-164.

Fainstein, S.S. and Fainstein, N. 2000. Cily planning and political values: An updated view. In Fanstein, S. and Campbell, S. (Eds), *Readings in planning theory*, pp. 265-287. Malden: Blackwell Publishers.

Follmann, A. 2016. The role of environmental activists in governing riverscapes: The case of the Yamuna in Delhi, India. *South Asia Multidisciplinary Academic Journal* 14(2016).

Follmann, A. 2017. *Governing riverscapes: Urban environmental change along the River Yamuna in Delhi, India.* Stuttgart: Franz Steiner Verlag Wiesbaden gmbh.

Forman, R.T.T. 2005. *Land mosaics: The ecology of landscapes and regions*. Cambridge: Cambridge University Press.

Fuchs, C. 2015. Critical theory. In *The International Encyclopedia of Political Communication*. s.l.: John Wiley & Sons, Inc.

Gadgil, M. and Guha, R. 1992. *This fissured land: An ecological history of India*. Oxford University Press.

Gadgil, M. and Guha, R. 1994. Ecological conflicts and the environmental movement in India. *Development and Change* 25(1): 101-136.

Gavali, D.J. 2018. Flora [Interview] (14 05 2018).

GERI. 2014. Study of water quality fluctuation in River Vishwamitri, Vadodara: Narmada, Water Resources, Water Supply and Kalpsar Department.

Guha, R. 2024. *Speaking with nature: The origins of Indian environmentalism*. First ed. New Delhi: Fourth Estate.

Gunderson, L.H.; Holling, C.S. and Light, S.S. 1995. *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia Univesity Press.

HCP DPM Pvt. Ltd. 2014-12. Vishwamitri Riverfront Development Project: Feasibility Report Master Plan, Vadodara: Vadodara Mahanagar Seva Sadan.

HCP DPM Pvt. Ltd. 2016. Vishwamitri Riverfront Development Project: Feasibility Report Master Plan, Ahmedabad: Vadodara Mahanagar Seva Sadan.

Jain, V. 2019. Examining the town planning scheme of India and lessons from land readjustment in Japan , Tokyo: Asian Development Bank Institute.

Jasanoff, S. 2021. Humility in the Anthropocene. *Globalizations* 18(6): 839-853.

Jesani, L. 2018. Saving the Vishwamitri: An ongoing tussle between waterfront development and river rejuvenation. Economic and Political Weekly, 24 November, pp. 31-35.

Kerpen, D. 2016. The art of people: 11 simple people skills that will get you everything you want. Crown Currency.

Leopold, A. 1966. A Sand County almanac. The Oxford University Press.

Lyle, J.T. 1999. *Design for human ecosystems: Landscape, land use, and natural resources*. Island Press.

Marsh, W.M. 2010. *Landscape planning: Environmental applications*. Fifth Edition. Hoboken: John Wiley and Sons.

Mathur, N. 2012. On the Sabarmati riverfront: Urban planning as totalitarian governance in Ahmedabad. Economic & Political Weekly, 1 December, pp. 64-75.

McHarg, I.L. 1969. *Design with nature*. New York: John Wiley & Sons.

Mehta, L. 2003. Contexts and constructions of water scarcity. *Economic and Political Weekly*, 29 November.

Mittal, D.; Mittal, D.; Kinzer, A.D.S.; Liu, X.; Sagar, R.; Sampath, K.; Stone, C. and Yang, Y. 2017. *Vishwamitri: A river and its reign.* Ann Arbor: School of Natural Resources and the Environment, University of Michigan.

MoHUA. 2023. Pathways to Amrit Kaal: Envisioning and realising a new future for Indian Cities, New Delhi: Ministry of Housing and Urban Affairs.

Nagendra, H. 2018. The global south is rich in sustainability lessons that students deserve to hear. https://www.nature.com/articles/d41586-018-05210-0

Nayak, A.K. 2015. Environmental movements in India. *Journal of Developing Societies* 31(2): 249-280.

Neuman, W.L. and Tucker, V. 2022. *Social research methods: Qualitative and quantitative approaches*. Eight ed. Noida: Pearson India.

NITI Aayog. 2018. SDG India Index: Baseline Report 2018, New Delhi: NITI Aayog.

NITI Aayog. 2021. Report of the Committee constituted for formulation of strategy for Flood Management Works in entire country and River Management Activities and works related to Border Areas , New Delhi: NITI Aayog, Government of India.

NIUA, Namami Gange. 2021. Strategic guidelines for making river-sensitive master plans. New Delhi: Ministry of Jal Shakti.

NIUA. 2022. Eco-friendly interventions for riverfront development. New Delhi: National Institute of Urban Affairs.

NMCG and SPA. 2021. Urban wetland/water bodies management guidelines , New Delhi: Ministry of Jal Shakti.

Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. (2021).

Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. (2017).

Patton, M.Q. 2015. *Qualitative research and evaluation methods*. Los Angeles: Sage Publications.

Pessina, G. 2018. The 'missing conflict' of the Sabarmati Riverfront: Authoritarian governance, neoliberalism and water in Ahmedabad, India. PArtecipazione e COnflitto * *The Open Journal of Sociopolitical Studies* 11(3): 692-716.

Pradhan, S. 2021. Public participation [Interview] (01 07 2021).

Ragin, C.C. 1992. Introduction: Cases of "What is a Case?". In Ragin, C.C. and Becker, H.S. (Eds), *What is a case? Exploring the foundations of social inquiry*, pp. 1-17. New York: Cambridge University Press.

Raina, R.S. 2015. *Science technology and development in India: Encountering values*. New Delhi: Orient Blackswan.

Representative-1, E. E. 2021. Governance [Interview] (30 06 2021).

Representative-2, O. 2021. Governance [Interview] (10 07 2021).

Rohit Prajapati & Anr. Versus Secretary, MoEF & CC & Ors. (2021).

Rohit Prajapati & Anr. versus Secretary, MOEF & CC and Ors. (2016).

Sarang Yadwadkar & Pushkar Vijay Kulkarni vs M/S Pune Municipal Corporation & Ors. (2022).

Save Vishwamitri, Save Vadodara. 2017. [Film] Directed by Arjun Singh Mehta. s.l.: s.n.

Shah, E.; Vos, J.; Veldwisch, G.J.; Boelens, R. and Duarte-Abadía, B. 2019. Environmental justice movements in globalising networks: A critical discussion on social resistance against large dams. *The Journal of Peasant Studies*, p. DOI: 10.1080/03066150.2019.1669566.

Shaji, D. and Macwan, J.E.M. 2017. A study to detect urban changes and its relationship to flash flood in Thiruvananthapuram. GRD Journals, pp. 18-27.

Shiva, V. 2016. *Water wars: Privatization, pollution and profit*. Berkley: North Atlantic Books.

Shunglu, R.; Köpke, S.; Kanoi, L.; Nissanka, T.S.; Withanachchi, C.R.; Gamage, D.U., ... and Withanachchi, S.S. 2022. Barriers in participative water governance: A critical analysis of community development approaches. *Water* 14(5).

Simons, S.; Kinjawadekar, A. and Kinjawadekar, T.A. 2024. Assessing the impacts of ecological framework of Indian riverfront revitalization projects. *Environment, Development and Sustainability* 26: 27553-27583.

Steiner, F. 2008. *The living landscape: An ecological approach to landscape planning*. Washington: Island Press.

TCPO. 2020. River centric master planning and urban river management and planning. New Delhi: Ministry of Housing and Urban Affairs, GoI.

TCPO. 2021. River centric urban planning guidelines. New Delhi: Ministry of Housing and Urban Affairs.

Trisos, C.H.; Auerbach, J. and Katti , M. 2021. Decoloniality and anti-oppressive practices for a more ethical ecology. *Nature Ecology and Evolution* 5: 1205-1212, https://doi.org/10.1038/s41559-021-01460-w

Vos, J. 2024. River defence and restoration movements: A literature review. *Water Alternatives* 17(2): pp. 239-265.

World Bank. 2021. The World Bank in India. https://www.worldbank.org/en/country/india/overview

Yadav, P. 2021. Urban rivers and their riverfronts: When restoration becomes real estate projects. In Dutta, V. (Ed), *Water conflicts and resistance,* p. 23. London: Routledge, India.