Socionature Hybrids: Power and Inequity in Environmental Solutions

Dr Shivani Singhal

October 2024

No. 2

About the Centre for Global Development

The Centre for Global Development (CGD) is rooted in the School of Politics and International Studies (POLIS). We are an interdisciplinary network, integrating research and expertise across the University of Leeds, our focus is critical reflections on development practice and the field of development studies/global development, The core research themes within CGD include education, water, health, agriculture, climate change, and political economy.

Disclaimer

Abstract

Contemporary environmental initiatives increasingly emphasise integrating human and more-than-human systems, moving beyond conventional nature/culture binaries. This shift is exemplified by the Namami Gange (National Mission to Clean Ganga) project in India, embracing a hybrid 'socionature' approach rooted in 'Hindu/Indian' cultural narratives, claimed to inherently align with ecological stewardship. However, the implementation, particularly in rejuvenating the Yamuna floodplains in Delhi, reveals power dynamics that perpetuate socio-economic disparities. This paper uses a political ecology framework to critically analyse how these socionature hybrids are tied to narratives of a supposedly superior Hindu/Indian cultural ethos. These narratives often romanticize specific cultures while overlooking the marginalization of vulnerable communities. Primary data from 20 semi-structured interviews with stakeholders including Delhi residents, environmentalists, religious leaders, government officials, and small-scale farmers combined with ethnographic observations from March 2021 to April 2022 illuminate the complexities of river rejuvenation projects. The environmental imaginary propagated by Namami Gange (2021), was conducted to analyse if projects grounded in socionature hybridity reinforce existing power differentials. The analysis reveals varied perceptions and experiences of environmental interventions, uncovering the nuances hidden by dominant cultural narratives. The paper advocates for a critical examination of socionature relations within cultural frameworks, emphasizing the need to address power dynamics and inequalities. It calls for sustainable development strategies that genuinely empower marginalized communities while promoting environmental integrity.

Keywords: Socionature, environmental solutions, political ecology, water governance, power, ethnography

1. Introduction

New environmental solutions that frame nature and society as intertwined hybrids have become increasingly widespread, signalling a significant shift in environmental subjectivity and policy. This shift challenges the conventional nature/culture binary and suggests a more integrated approach to ecological conservation. Rather than seeing nature and society as distinct entities, these socionature hybrids emphasize their co-evolution through complex social, political, and ecological processes. However, the effectiveness of such hybrid approaches, particularly in addressing deep-rooted social inequalities, remains unclear (Toxopeus and Polzin 2021; Wijsman and Berbés-Blázquez 2022). While they offer a potential alternative to technocentric environmentalism, these projects are often co-opted by broader political and cultural agendas, raising critical questions about their implications for marginalized communities (Mawdsley 2004).

In India, this trend is exemplified by the *Namami Gange*[1] project, a national initiative launched in 2014 to rejuvenate the Ganga and its tributaries (including the Yamuna River). *Namami Gange* employs a socionature framework that draws heavily on Hindu cultural narratives[2], framing the rivers not only as ecological resources but also as sacred cultural symbols (Sharma and Kaur 2020). By emphasizing the religious and spiritual significance of rivers like the Ganga and Yamuna, the project seeks to restore environmental balance while reinforcing national identity. This framing taps into a long-standing dominant environmentalism in India where environmental stewardship is linked to religious beliefs, with rivers symbolizing purity and divinity (Pathak 2022). Such narratives align with the broader goals of Hindu nationalism, positioning India as a global leader in ecologically sustainable development, underpinned by its cultural heritage (Alley 2019).

While this approach appears to offer a holistic solution to environmental degradation, it raises several critical concerns. Such initiatives in the past, while appearing inclusive, often marginalized vulnerable communities (Baviskar 2020). In particular, the emphasis on Hindu cultural values risks marginalizing communities that do not fit within this narrative—such as non-Hindu groups, and Dalit and Adivasi (Heterogeneous tribal groups) populations —who are frequently displaced in the name of ecological restoration (Mawdsley 2004). For example,

---

[1] *Namami Gange* ('Obeisance to Ganga' in Sanskrit).

[2] Hinduism is diverse in beliefs and practice across and beyond. It includes dynamic and varied notions and practices (Mawdsley 2005, p.2).

as demonstrated in the paper, the transformation of the Yamuna floodplains into biodiversity parks has led to the violent eviction of small-scale farmers, reinforcing the socio-economic inequalities that projects like *Namami Gange* claim to mitigate (Singhal 2023).

These concerns underscore the need for a critical examination of socionature hybrids and their relationship to broader social and political processes. This article explores the complex dynamics of these hybrids by employing a political ecology framework, which allows for a deeper understanding of how power relations shape environmental governance. The research questions guiding this study are: How do socionature hybrids, particularly within the context of projects like *Namami Gange*, reinforce existing power structures and social inequalities? And how do these initiatives intersect with cultural nationalism and environmental governance in India? These questions aim to unpack the socio-political implications of framing environmental conservation through religious and cultural narratives and explore how such initiatives shape broader governance discourses and practices.

By drawing on a range of qualitative data, including interviews, ethnographic observations, and policy document analysis, this study investigates how the *Namami Gange* project is not only shaped by but also actively contributes to broader socio-political processes, especially those tied to Hindu cultural nationalism. Sharma (2002; 2009), Krejčík (2019), Gohain (2021) and Pathak (2022) argue that nationalist discourses often simplify and romanticize India's cultural past, capitalizing on emotional narratives that obscure deeper social inequalities. The findings of this paper suggest that *Namami Gange*, by framing environmental restoration as a return to an idealized past, risks perpetuating the marginalization of vulnerable communities while privileging elite and middle-class urban visions of development.

The paper begins by introducing the concept of socionature hybrids and their growing presence in environmental governance, using *Namami Gange* as a key case study. Following this, it employs a political ecology framework to critically examine the power dynamics, cultural narratives, and socio-political implications of such projects. The paper concludes by discussing the impacts of these initiatives on marginalized communities and offering recommendations for more equitable and inclusive approaches to environmental governance that take into account the diverse relationships between people and nature, as well as the power imbalances that shape them. By understanding how power, culture, and nature are intertwined, this paper aims to provide a more nuanced and critical view of environmental governance in India and its broader impacts on socio-ecological justice.

2. Nationalism and Nature: Environmentalism as Cultural and Political Identity

2.1 Eco-nationalism: The Fusion of Environmentalism and National Identity

In the global arena, environmental initiatives often serve multiple purposes beyond simple environmental improvement, incorporating national identity and cultural narratives (Mawdsley 2004). Such articulation of environmental discourse influenced by historical contexts and contemporary agendas shapes policies and perceptions. The intersection of environmentalism with nationalism is evident across diverse ideological landscapes, where national identity is reshaped through narratives of environmental stewardship (Taylor 1997; Biro 2013).

Nationalism intertwines with environmental discourse in ways that can both celebrate but also manipulate cultural identities. In Canada, for instance, water becomes a symbolic tool for nationalistic thought, reflecting contradictions between preservation and exploitation (Biro 2013, p.177). Similarly, in the United States, early conservation movements mostly by "white, middle class, outdoor and wilderness oriented, elite males" in the early 19th century were fuelled by nationalist sentiments, promoting the intrinsic value of American landscapes (Taylor 1997, p.17). However, such 'Canadian' and 'American' projects entailed intensified relations of domination between the state and First Nation communities, along with stark inequalities within and across Anglo-Canadian and Anglo-American communities (Taylor 1997; Biro 2013). For example, Native Americans during the same time were being forced to live in some of the most inhospitable areas of the country where they sustained themselves using their traditional knowledge and practices. In comparison instead of stemming from nationalist thoughts, the working class and some elite women in America lobbied for neighbourhood parks rooted in concern for environmental and human health, safety and housing rights. These examples illustrate that while there are multiple forms of environmentalisms, some get moulded to fit national narratives, portraying landscapes as reflections of national character and historical continuity.

Such eco-nationalism, as described by Sivaramakrishnan and Cederlof (2006), merges cosmopolitan and nativist ideals to foster national pride through environmental conservation efforts. The coupling narratives of nationalism with environmentalism can obscure social inequalities and environmental injustices, legitimising policies that displace and disenfranchise marginalised communities (Malloy 2009, p.377). The strategic use of environmental discourse by various ideologies underscores its adaptability and potential for manipulation. For example, Smith (2011) highlights how local environmental movements in Australia are shaped by global

discourses yet remain deeply rooted in national contexts, reflecting a plurality of visions within eco-nationalism. This phenomenon is seen worldwide; in Japan, cultural nationalist arguments portray a uniquely Japanese ability to harmonize with nature, influencing global perceptions of Japanese environmentalism (Watanabe 2019). Akçalı and Korkut's (2015) work on Hungary and Turkey demonstrates that the ruling parties, the Hungarian Civic Union and Justice and Development Party have promoted their respective conservative Christian and Islamist politics through urban development projects that dictate gentrification and privatisation. This diversity within eco-nationalist movements demonstrates the complexity of reconciling environmental goals with national identities and aspirations.

Similarly, in India, environmental initiatives are often framed within Hindu cultural contexts, projecting an eco-friendly national image globally (Pathak 2022). Hindu tradition deeply influences Indian environmental thought and is rich in narratives of socionature relationships. Narayanan (2001, p.179) states that "From cradle to cremation, Hindus have long had a palpable, organic connection with nature." Therefore, religious, cultural, and spiritual views on nature significantly impact environmental policy in India.

Within such eco-cultural discourses, rivers Ganga and Yamuna have grabbed most of the focus due to their distinct meanings and roles (Alley 2019, p.2). The cultural creation of the Ganga and Yamuna rivers results from combining several factors such as social values and economic significance, including Hindu religious ones. Central to many rituals, the rivers symbolize purity and divinity, reinforcing their deep spiritual significance in Hindu culture. Ancient scriptures like the Vedas and Upanishads emphasize water's crucial role in sustaining life and purification, with texts like the Rig Veda and Puranas venerating rivers such as the Ganga, Yamuna, and Saraswati (Haberman 2006). These rivers are believed to purify the soul, absolve sins, and offer liberation, reflecting their sacred status.

In such cases, the integration of ideals of sustainability with nationalism introduces complexities and challenges. The alignment of environmental goals with national identity constructs can perpetuate exclusionary practices. The convergence of the Hindu nationalist movement with environmental issues is mostly deliberate. For example, against plastic pollution, PM Modi appealed, "Our culture, our traditions have never taught us to be at loggerheads with nature" (*Mann ki Baat* 2018 [roughly, from the Heart], cited in Pathak 2022). Pathak (2022) further writes how this discourse lays the blame for ecological degradation on the 'outsiders'. Similarly, one of the earliest environmental movements in India, the *Chipko* movement (tree hugging movement) and the Narmada *Bachao* movement (save Narmada River

movement), stemming out of Gandhian thought towards an organic relationship between humans and nature were also marked by interconnection between indigenous practice, local traditions, culture and religion (Krejčík 2019; Kumar 2021). However, Sharma (2018) writes how the Narmada *Bachao* movement was renamed by Dalit communities as the '*Patildar Land Bachao Andolan*' (Movement to Save *Patildar's*[3] Land) as it was concerned mainly about the landowners and often glorified the oppressive institutions in the rural areas. Even the judiciary can be seen framing their judgements for example giving personhood to rivers, by centring the sacredness of the rivers for Hindus (Alley 2019). However, a stay was placed on the ruling after the Central and Uttarakhand governments filed a petition in the Supreme Court objecting to Uttarakhand officials being held accountable for the entire river's pollution. This left the rivers with no mechanism to claim her legal rights despite being declared a living entity, rendering the ruling ineffective (O'Donnell 2018, p.142). Moreover, the only action as a result of this ruling was the eviction of lower-income people residing around the Ganga Canal making them lose their residential places and livelihoods (Rosencranz & Kaul 2017, p. 54).

Recognising and critically analysing these intersections is crucial for understanding how environmental discourses are shaped, contested, and mobilised within broader socio-political contexts. As environmental challenges persist and evolve, so too must our understanding of how national and cultural identities intersect with global environmental imperatives. The political ecology framework helps us unpack these complex relations by not only breaking the apolitical nature-culture binaries but also analysing the power dynamics within them.

2.2 Power, Politics, and Nature: Unpacking Political Ecology

Political ecology emerged in the 1970s to explore the connections between environmental changes and socio-political marginalisation. It questions why inequitable environmental solutions persist despite viable alternatives. At its core, political ecology examines who benefits from socio-ecological transitions and at whose expense (Robbins 2019). Contrary to the notion of apolitical environmental changes, political ecology asserts that environmental transformations are deeply politicised and intertwined with social power dynamics (Bryant and Bailey 1997; Swyngedouw 2023). Overall, this interdisciplinary field explores material flows, human/more-than-human relationships, and power dynamics within socionature urban systems, encompassing chemical, physical, social, economic, political, and cultural processes (Swyngedouw 2004; Heynen et al. 2006; Keil 2007).

---

[3] *Patildar* is a land-owning caste in Gujarat. The term 'Patidar' means 'landowner'.

This framework emphasises that environments are not simply natural entities but are actively produced and contested through socio-political processes (Swyngedouw 2004; Heynen et al. 2006). It views socio-ecological systems as reflexive and complex, shaped by historical human agency and interpretations. Water, specifically reveals hybrid networks of humans, more-than-humans, technologies, knowledges, and power relations, narrating urban stories of privilege and exclusion (Swyngedouw 1996, p.67).

Central to this paper's analysis, the concept of 'socionature' challenges the binary division between society and nature, showing how they co-evolve through power relations (Zimmer et al. 2020). Political ecology critiques this dualism, revealing the social construction of nature and how nature is used to categorize people (Latour 1993; Swyngedouw 1999). In other words, political ecology critiques how nature is constructed to serve societal interests, often marginalizing certain groups, making it crucial to examine socio-ecological processes and uncover underlying inequalities (Foster 2000).

Political ecology highlights how environmental discourses serve the interests of local actors globally (Davidov 2015, p. 5). The concept of environmentality (Agrawal 2005) illuminates how environmental sensibilities are constructed in relation to politics, institutions and identities. It is important to investigate how reforms hinge on processes of subject formation through socially conditioned everyday practices. Such framing of policies benefits certain communities by endorsing what is legitimised and prioritised. The exercise of power is enacted internally through the production of a certain kind of subject whose identity as a 'good citizen' is associated with a set of specific environmental activities. Powerful players then establish and maintain complex social networks around these frames (Morrison et al. 2019). Political ecology here becomes useful to analyse the way power is exercised within individuals, communities and societies (Peet et al. 2011, p.32).

In political ecology, the recognition of complex socio-ecological realities underscores their inherently political nature (Mol 2003, p.7). Power is central to this field, revealing how unequal socio-political dynamics drive inequitable environmental changes (Paulson and Gezon 2005; Peet and Watts 2004). Power is defined by Bratton (2012, p.233), as "the ability to secure compliance to one's will." It is not inherent in societal institutions or formal positions but emerges from social relations and interactions (Ribot and Peluso 2003). These interactions involve spaces, actors, discourses, institutions, knowledges, and practices across multiple scales and dimensions (Ahlborg and Nightingale 2018, p.387). Power operates through diverse forms of deployment, contestation, negotiation, and reconfiguration, acknowledging the

material qualities that shape socio-ecological processes and waterscapes. Ecological sites become arenas where urbanisation, conflict, violence, and desires intersect and evolve dynamically. Understanding these dynamics necessitates unpacking the intricate networks of power in environmental governance, the strength of political ecology's multi-approach methodology (Svarstad et al. 2018, p.360).

3. Methodology

This study employs a qualitative ethnographic research approach, spanning from March 2021 to April 2022, utilising semi-structured interviews, photographic documentation and participatory observation to explore the political ecology of environmental change. The case study methodology is applied to form a 'thick description' (Peet and Watts 2004), aiming to identify the biophysical and socioeconomic drivers behind local-scale environmental changes, particularly focusing on conservation efforts and environmental degradation processes (Robbins 2019). This approach emphasises the importance of understanding stakeholder involvement, exclusion, interest prioritisation, and the use of knowledge, power, and discourse in decision-making (Escobar 1998; Peet and Watts 2004).

In Delhi, the governance of river rejuvenation involves multiple actors, including various government sections, the judiciary, environmentalists, civil society, industries, cultural actors, residents, and farmers. The study's objective is to build a comprehensive picture by combining multiple data collection methods, transforming the river from a 'non-place' into a 'cultural landscape' (Sauer 1963) for critical analysis.

For insights into the environmental imaginaries being promoted, secondary data were gathered from reports published by *Namami Gange* and National Institute of Urban Affairs (NIUA) (2020) and *Namami Gange* (2021), alongside newspaper articles. *Namami Gange* was announced in 2014 as a priority by Prime Minister Narendra Modi. It aims to coordinate multiple state agencies to facilitate basin-wide Integrated water resource management (IWRM) (Wang et al. 2016, p.133). The mission includes multiple riverfront rejuvenation projects (Sharma and Kaur 2020).

Alongside, primary data collection employed a multifaceted approach, engaging diverse stakeholders through repeated field visits[4]. The primary data comprised twenty semi-structured interviews with various stakeholders, including housing rights activists and lawyers (4),

---

[4] However, at this time I did not interview people with the issue of Hindu nationalism in mind, but with regards to water governance of the Yamuna River in Delhi.

environmentalists and lawyers (5), small-scale farmers (4), and middle-class *Diliwalle* (Delhi residents) (7). These interviews aimed to capture a broad spectrum of perspectives and experiences. Informed consent was obtained from all participants prior to the interviews. Additionally, detailed ethnographic field notes were integrated into the recorded transcripts to enrich the qualitative data. Attendance at *Namami Gange* webinars provided additional insights into how different stakeholders engage with nationalist narratives and cultural nationalism.

The analysis involved several stages to ensure a thorough and nuanced understanding of the data. Interview transcripts were briefly summarised and grouped according to various topics. The initial codes were refined into finer sub-categories through a process of critically connecting, condensing, and clustering the data. The various sources of data were cross-referenced and verified through triangulation to ensure robustness and reliability (Harrison, 2006). This method helped create a detailed, rich, and comprehensive analysis, shedding light on the complex socio-ecological system and the historical socio-political context of the research area (Wodak 2023).

4. Greenwashing Nationalism: The Fusion of Environmentalism and Cultural Identity

4.1 Sacred Rivers, Nationalism, and Environmental Politics: The Hindu/Indian Nexus
Krejčík (2019) claims that the close linkage between environmental, Hindu conservative, and nationalist ideologies in India is evident. This paper explores the ecological dimension of Hindu nationalist thought to understand the interplay between nature, nation, and ecology in contemporary India. Debates about rejuvenating the river raise questions about belonging and identification, intertwining ecological rejuvenation with issues of eviction. In other words, it is crucial to examine the social and cultural dimensions of these environmental issues.

Kumar (2021) argues that ecological conservation rooted in culture and tradition holds significant relevance in India, a country with diverse cultural practices deeply reverent of nature. The intertwining of environmentalism with 'Hindu/Indian'[5] value systems, and the appropriation of local environmental protests into grand narratives of religion, are intertwined with nationalism, particularly in specific historical contexts (Gohain 2021). Environmental degradation and pollution have been largely addressed by movements drawing on Hindu

---

[5] PM Modi generally codes 'Hindu civilisation' as 'Indian civilisation' in his long speeches on Indian civilisation history, where he refers to it as most 'refined human civilisation' (Dominique 2022).

religious traditions and holy texts, romanticising an ecologically sensitive Hindu/Indian past (Pathak 2022). Milton (1996) describes this as the 'myth of primitive ecological wisdom.'

Stemming from these traditionalist thoughts, for thousands of years, the Yamuna River has been revered as holy in Hinduism. In Hindu mythology, the Yamuna is the daughter of Surya (the sun god), and the sister of Yama (the god of death) with ties to Lord Krishna's incarnation (Follmann 2014, p.123). Daily, many devotees take holy dips in the river at various *ghats* (steps to a water body), submerging items like flowers, *sindoor* (vermilion), and idols as part of their rituals. Several religious festivals, including Durga Puja, Ganesh Puja, and Laxmi Puja, involve the immersion of large idols in the river (Bhattacharya et al. 2015, p.235). The Yamuna is also central to funeral rites, with ashes, and sometimes the bodies of infants, animals, or those from economically disadvantaged communities, being deposited in the river without cremation due to financial constraints.

As a result of such cultural connotations, 'native' nature is often depicted as shaping the national character (Smith 2002; Brosius 2010). The discourse of environmental politics reveals political allegiances with Hindu conservative forces, necessitating a critical analysis of these linkages to understand the complexities and nuances of environmental and social politics. Historical efforts by Hindu nationalist organizations have linked threats to sacred rivers with threats to community and culture, merging the politics of 'saffron' with 'green' (Sharma 2002, p.7). More importantly, Hindutva (Far-right Hindu nationalism movement)[6] organizations integrate nature conservation into their political ideologies and agendas.

For example, Hindutva organisations[7] were active in the campaign against the Tehri dam over the Ganga River throughout the 80s and 90s (Sharma 2011). The Tehri Dam, one of the world's tallest, harnesses the Bhagirathi River in the Himalayas, displacing around 85,000 people from 23 completely submerged and 72 partially submerged villages (Sharma 2009). This displacement disproportionately affected the poor, women, lower castes, and rural communities, leading to issues like land alienation, social disintegration, and inadequate compensation (Mawdsley 2005, p.11). The anti-Tehri dam movement was among the first

---

[6] Direct translation broadly means 'essence of Hindu-ness', however it has come to refer to the more narrow agenda of 'Hindu nationalism'. It has an assertively militant and fascist tone with demands of expelling generally all other religions but specifically Christians and Muslims from the country (Mawdsley 2005).

[7] Notably, the Bharatiya Janata Party (BJP) (Indian People's Party), Rashtriya Swayamsevak Sangh (RSS) (National Volunteer Organisation) and Vishva Hindu Parishad (VHP) (World Council of Hindus).

contemporary efforts to connect ecological, social, and mythical values through scientific studies and cultural-religious references in India. Importantly, the protests highlighted the deep connection between nature and culture, invoking myths of a past where society lived in harmony with nature, particularly the sacred Ganga. Globally, nationalism often draws on antiquity to refine social production and enact power, with myths about nature playing a central role in defining national characteristics (Smith 2011). These myths became essential in shaping environmental politics and identities, often intertwining with Hindutva politics to evoke patriotism and xenophobia. Muslims and people from the lower caste were symbolically positioned as outsiders and marginalized in the process, with an aim to manipulate fears into social and electoral power bases, connecting dam protests to wider political goals (Mawdsley 2005). The river in danger took the form of a community, identity and country in danger. The movement was wrapped in a conviction that only through the recovery of a Hindu religious platform can a successful case be made against the dam (Sharma 2009). As a result, environmental movements co-opted by a nationalist rhetoric inherently are centred around marginalising other religions instead of having environmental concerns at their core.

Other examples of environmental movements drawn against religious divides are battles over coastal fishing resources framed as Hindu/Christian and issues of high levels of pesticides in soft drinks framed as 'Muslim sabotage' (Mawdsley 2005, p.20). Continuing these deeply embedded eco-cultural narratives, Lok Sabha member (lower house of parliament) from BJP and actress Hema Malini performed the 'Ganga Dance Ballet' on 19 March 2024 to promote the rejuvenation of rivers. Referring to the river as 'Dev Nadi' (holy river) "coming from heaven for the benefit of humanity", she applauded PM Modi's focus on river rejuvenation and "taking the country to such great heights, (due to which) the whole word is praising us (India)" (The Print 2024). The intervention of nature, culture and nationalism can be starkly seen here.

However, narratives in policy documents and popular discourse often diverge from the on-ground reality. Despite the diversity of Hindu attitudes towards nature, including hostile ones, local practices must be understood within their ecological, economic, and cultural contexts (Krejčík 2019; Pathak 2022). Closer anthropological investigations reveal that local customs and ways of life often differ from religious prescriptions, as seen in *Namami Gange*.

4.2 Namami Gange: Harnessing Rivers for Nationalism and Power

As theorised by political ecology, while green-blue rejuvenation policies are manifestations of cultures, they also transform and work on them. Through *Namami Gange*, the waterscape has

become part of cultivating popular nationalism. It is a key part of the nation-branding strategy that focuses on India as a global leader in ecologically sustainable development. *Namami Gange* becomes a tool to generate, harness, shift, and fundamentally reshape the flows of social, political, cultural and economic power. By organizing water, it also organizes meaning and relationships, empowering some while disempowering others. Such conservation efforts simplify diverse meanings of wilderness into one most amenable to the idea of a spectacular national heritage (Sivaramakrishnan 2011, p.104).

This has been captured in the *Namami Gange* documents. Out of the three vision statements of the Urban River Management Plan (URMP), apart from economic and environmental, there is also social, stating,

> *"The river will be celebrated among the citizens: Historically, cities have developed along the banks of the rivers in India. For such cities, the river was always the focal point for religious, social, and recreational purposes. However, over the years this connect between the citizens and rivers has diminished, and completely lost in some cases. This vision of the URMP for this element, therefore, seeks to create an environment to make the citizens treasure the river and celebrate it as a valuable common asset." (Namami Gange & NIUA 2020, p.33).*

Similarly, the *Namami Gange* (2021) document emphasizes 'connecting city to river.' Reviving this connection to the river in the *Namami Gange* project is deeply rooted in emphasising the lost cultural aspect of the rivers. In the Guidance Note, Shri Rajiv Ranjan Mishra, the former director general of *Namami Gange*, writes,

> *"India's rivers and their many tributaries have been the source of physical and spiritual sustenance of Indian civilization for eons. Rivers hold immense cultural and religious significance in India and the cities and locales on riverbanks are typically important cultural centers… In addition, the deep connection that humans had forged with rivers, with a multitude of religious and cultural practices and community and individual rituals are lost today" (Namami Gange 2021, p.3).*

These discourses have been implemented through the rejuvenated Yamuna Initiative in Delhi.

4.3 Yamuna Rejuvenation: Environmental Vision and Social Consequences

The restoration and rejuvenation of floodplains along the Yamuna River in Delhi represent a significant departure from conventional urban development trends in India. Spearheaded by

the Delhi Development Authority (DDA)[8] and aligned with the vision of involving citizens as active participants (*Namami Gange* and NIUA 2020, p.63), the focus has shifted towards creating biodiversity parks rather than pursuing concretised riverfront development.

The Yamuna River, originating from the Yamunotri glacier in the Himalayas, courses through six states, covering diverse landscapes before merging with the Ganga in Uttar Pradesh (Sharma and Kansal 2011). Within Delhi's 50 km stretch of the river, only 2% (22 km) bears the brunt of 70% of the river's pollution, exacerbated by sewage from 23 drains carrying domestic and industrial waste throughout the year (Yamuna Monitoring Committee 2020). This segment is heavily contaminated with metals like chromium, nickel, copper, zinc, lead, cadmium, and arsenic, resulting in severe oxygen depletion and visible foam accumulation (Bhattacharya et al. 2015; Shekhar and Sarkar 2013).

As per *Namami Gange* (2021, p.26), the holistic view of the Yamuna within this transformation includes not only its waters but also its floodplains, groundwater, and interconnected ecological systems crucial for urban resilience. This integrated approach underscores the need to reconsider urban-rural dichotomies and reconceptualise water systems as unified entities, as articulated in forums such as the 'Wednesdays for Water' seminar by Rajiv Ranjan Misra (June 2022).

As a result, currently, Delhi plans to convert 1,267 hectares of dynamic small-scale farms on the Yamuna floodplains into 10 biodiversity parks (Delhi Development Authority 2020). This transformation is being signalled as an exemplary environmental model, aiming to set a precedent for rejuvenating 351 stretches of polluted rivers nationwide (Yamuna Monitoring Committee 2020). However, this ambitious endeavour is not without its challenges, as it involves a highly engineered approach that marks a profound socio-ecological transformation of India's urban waterscape, often at the expense of displacing thousands of small-scale farmers.

The apparently socionatual harmonious policies within *Namami Gange* are implemented in the shadow of such violent evictions by blaming the farmers for causing pollution by using chemical fertilizers while at the same time taking no action against big polluters such as sand mafia and largescale dumping of concrete waste in the rivers. The Yamuna floodplain has long been vital to the country's agrarian economy, with farming dating back to the city's

---

[8] The planning authority under the Central government.

establishment (Singh et al., 2010, p.611). After India's independence in 1947, the area was designated for agriculture under the 'Grow More Food' campaign to combat food shortages. For the farmers, environmentalism is not just singular, rather it is about identity, livelihood, development, aesthetics, values, ecology, and much more (Singhal 2023). Their evictions echo a trajectory of historical injustice such as the controversial eviction of around 80,000 residents from Yamuna Pushta to create a riverside promenade, illustrating the social costs intertwined with environmental initiatives (Baviskar 2020). Such evictions negatively impact the livelihood, residence, social ties, and situated knowledges of these farmers.

As a result, despite the environmental promises of new initiatives, critical questions need to be asked about their socio-ecological impacts. While these plans promote an updated, eco-friendly development narrative, they often overlook social inequalities and tokenistically address broader socio-ecological issues (Wijsman and Berbés-Blázquez 2022). Therefore, a nuanced understanding of the interplay between ecological rejuvenation and social justice, from a political ecology perspective is essential to ensure sustainable and inclusive urban futures in India.

5. Environmental Imaginaries of the Myth of a Pristine Past in *Namami Gange*

5.1 The Politics of Romanticized Pasts and Environmental Nationalism

The *Namami Gange* discourse romanticizes pre-colonial Indian society as ecologically sensitive, projecting certain Indigenous knowledges as key to sustainable development. It promotes a return to a glorified past where Hindu/Indian values are seen as naturally aligned with environmental harmony, reinforcing national identity and culture. This way, an ecological Hindu nation gets promoted. Such apolitical historical and cultural readings of land project continuity hide the multiplicity of people's environmental perceptions. The movement is aimed at co-opting geographies, bodies, and ecology by reinventing contexts (McFadden 2024).

The interviews I conducted with various stakeholders including middle-class *Dilliwale* (Delhi residents), environmentalists, religious leaders, government officials, and small-scale farmers illustrate this point. The call back of Hindu civilisation is more than a source of imaginative and linguistic inspiration but is an ideology that systematically shapes, controls and manages human-ecological relationships and realities (McFadden 2024). Reminiscing her childhood and talking about the concretisation of the city leading to the degradation of nature, Middle-class *Dilliwali* (1) states the need to "go back" and revive olden lifestyles.

> *"We need to go back. Nowadays they cut trees and make buildings. All the birds die. It's sad… I have hope. We are really going back. Look now we've started using petal (copper), mitti (clay) utensils. We are remembering everything. We used to do all this when I was a kid. Now it's all coming back again."*

Such discourses of eco-friendly lifestyles being followed in the past, even living memory are common. While they do highlight important phenomena such as loss of multiple knowledges and environmental degradation due to concretisation, they stem from a romanticised past where all humans live in harmony with nature. Any sort of socio-ecological inequity is erased. In extension, discussing bathing in rivers, middle-class *Dilliwali* (2) bases these ecofriendly lifestyle knowledges on the Hindu culture and recognises the Brahmins (priests) as the bearers of this knowledge.

> *"Actually, in our culture (Hindu), it is said that whenever you take a bath in the river you should not use soap. You should take a dip. All the pandits and sadhus (priests and sages) say that people should use mud while taking a dip. In our culture, there are already solutions to this (water pollution) provided people follow them. Maybe they are unaware of it. But this is already there in the culture."*

This construction of the nation as made up of only certain sections of the society forms a structure of domination and othering. Moreover, this environmental utopia of an ideal society is closely linked with the orthodox Brahminical interpretation of Indian society and ignores the oppression of Dalits, Buddhists, Jains and so on (Krejčík 2019). Kaur (2016) terms this as 'remixing history' where elements are isolated, rearranged and updated to create an altogether new version of history that retains traces of the past while erasing it.

Such environmental discourses stemming from a romanticised golden period rooted in the "Indian culture" can be seen in turn converted to policy. A retired officer in the Central Ground Water Board stated on the conservation of the floodplains,

> *"Indian culture is not like that (environmentally degrading). The floodplains should always be left alone. No development activity should be there. Floodplains are also being shrunk now due to development. That is not a good thing. We need it for nature, for flow."*

As discussed above, the 'Indian culture' takes centre stage in *Namami Gange*. Through such policies, while concretisation is stopped to a certain extent, small-scale farmers are violently

evicted to 'make the floodplains available for nature'. As a result, when political questions of power dynamics, equity, justice and trade-offs are erased through framing the Indian culture as inherently eco-friendly, it leads to unjust results.

To romanticise any religion or indigenous/local belief system as being inherently ecological is to fall into the essentialist trap (Gohain 2021, p.74). Sharma (2009) terms 'environmental identity' when religion or indigeneity becomes the central fixed anchor, hijacking the environmentalist movement to serve a politics of cultural identity and fix the relationship between the human and non-human natural world as sacred and pure. In this way, saving the rivers becomes a matter of saving Hindu cultural heritage. It becomes a political symbol instead of a purely ritual marker (Gohain 2021).

The obsession with Hindu civilization constitutes an ideological method of shaping the environmentality of citizens. This includes the control of the relation of the populace to their local environment through, for instance, cultural sites. Moreover, it also supports a set of environmental rules, systems and structures affecting the bodies and ecologies of Indian citizens (McFadden 2024). Such ties of environmentalism, nationalism and religion are internalised by people. *Namame Gange* project has been used for galvanising votes and party support (Alley 2019, p.11). How such rhetoric is used to galvanise party support is seen in the comment by small-scale farmer (1),

> *"Modi can clean the river Yamuna. He was able to get the Ram Mandir (Ram Temple) built. This is still the ordinary Yamuna. He has the power to do anything."*

Within this rhetoric of the cultural value of the river, PM Modi is tied to the narrative of cleaning the river. It is being considered that if he can build the Ram Mandir[9] then cleaning the ordinary Yamuna is within his power. It is important to note that this phenomenon of tying nature and cultural nationalism has been identified in not just the recent BJP government but also during the time of past governments. However, in the current global cultural movement that is seeing both a rise in nativist and populist politics and a growing concern with environmental issues and climate change, examining such complexities is critical (Pathak 2022).

---

[9] The Ram Mandir was built after the forceful demolition of the Babri Masjid. This was foreshadowed by rituals and symbols, including the sacredness of the Ganga. In the process, communal and religious organisations came to exercise a new influence in everyday lives (Sharma 2009, p.36).

Another aspect of presenting the Hindu/Indian culture and lifestyle as ecological is by framing all environmentally degrading aspects as coming from the 'outside' and, as a result inherently not Indian. While environmentalist (1) recognises the class dynamics in the creation of riverfront development projects, the concept itself is framed as coming from the 'outside'.

> *"The Riverfront development project is targeting this section (lower income). When upper-middle-class raises voices against river pollution, the authorities display some replicas of these riverfront development projects. If there are vegetables or native grass growing, they don't appreciate it. They only appreciate artificial things. The concept has been taken from the outside, right?"*

Similarly, environmentalist (2) recognises the concretisation of riverfront developments in India, especially the Sabarmati riverfront in Ahmedabad[10] as a 'foreign' 'outside' concept.

> *"In foreign countries, if you look at riverfronts both sides are concrete. So, I would say that this idea of the riverfront in India has not come from Ahmedabad but from outside."*

The chauvinist agenda of Hindu nationalism seeps into green politics (Mawdsley 2004, p.95). While Indian intellectuals do recognise the importance of native science along with modernity, they get wrapped up in similar calls issued by Hindutva nationalists (Nanda 2002).

However, this Hindu nationalistic framing of cleaning rivers was not expressed by all participants. Some emphasised the importance of equitable socio-nature relations without specifically rooting this view on the past or Hinduism. However, it is based on the economic value potentially created. Middle-class *Dilliwala* (3) stated,

> *"We don't want the earth to go to pre-human days. We want to make it better for us while we enjoy nature. Both can be equitable and coexist. Better living areas create better income. So good ecology is good environmental sense."*

However, again, the economic narrative of *Namami Gange* has not captivated everyone. There are voices opposing privatisation policies. Here again, there are diverse views. Small-scale farmer (2) recognised that environmental degradation and environmental rejuvenation

---

[10] The Sabarmati riverfront development project, which began in 2011, evicted around 40,000 poor households to 'reclaim' 11 kilometres of riverbanks in Ahmedabad (Follmann 2015; *Namami Gange* 2021). Despite causing environmental risks and being criticized by activists, it is celebrated by the state and often used for photo opportunities in Gujarat (Pessina 2018; Thakkar 2019).

initiatives both stem from privatisation. While stating points that echoed the political economy of river rejuvenation projects, he was able to point out multiple levels of power dynamics of class, caste and globalisation.

Moreover, taking inspiration from the past and reminiscing the connection that people had with the river is not just seen through Hindu thinking. Sufism is also recalled as a vital point of connection that people had with the river. Middle-class *Dilliwala* (4)

> *"When you look at history that way you see how these royal and Sufi people used to stay near the banks of the Yamuna. Now it is just limited to Yamuna Bank which is a metro station. Now the Yamuna is just a dirty river where people don't really live anymore. People do but are not well off. Imagine a situation where all the well-off, rich, people who didn't really use to live in the city lived there. So that's a huge contrast."*

Here too, it is the 'well-off, rich people' who are seen as worthy of occupying the floodplains. The not-well-off small-scale farmers are seen as unworthy.

As a result, while the Hindu/Indian nationalist discourse remains the most dominant in environmental governance and perpetuated through *Namami Gange's* environmental imaginary, it is surrounded by diverse nuanced views on the connection between religion, culture, class and caste.

5.2 Shaping Nature: Environmental Imaginaries and the Politics of Rejuvenation

It is useful to explore the way in which the relationship between human beings and ecology is visualised and propagated. Watts and Peet (1996, p.263) describe environmental imaginaries as "a way of imagining nature, including visions of those forms of social and individual practice which are ethically proper and morally right with regard to nature." The transformation of nature is dependent on their attached meanings of not only how nature is but how it ought to be. This makes it both descriptive and prescriptive (Zimmer et al. 2020, p.228). Environmental knowledge, imaginaries and discourses are key to restructuring urban spaces materially, in the process marginalising and excluding some groups. Imaginaries that naturalise power dynamics by promoting specific groups need to be critically interrogated.

The 'Guidance Note for Environmentally Sensitive, Climate Adaptive and Socially Inclusive Urban Riverfront Planning and Development' by *Namami Gange* (2021) is a guidance note for all Urban Riverfront planning and development projects on the Ganga and its tributaries. The

image-rich document gives clues as to the focus of the *Namami Gange* plan. Figures 1 and 2 present some of these images presented in the document.
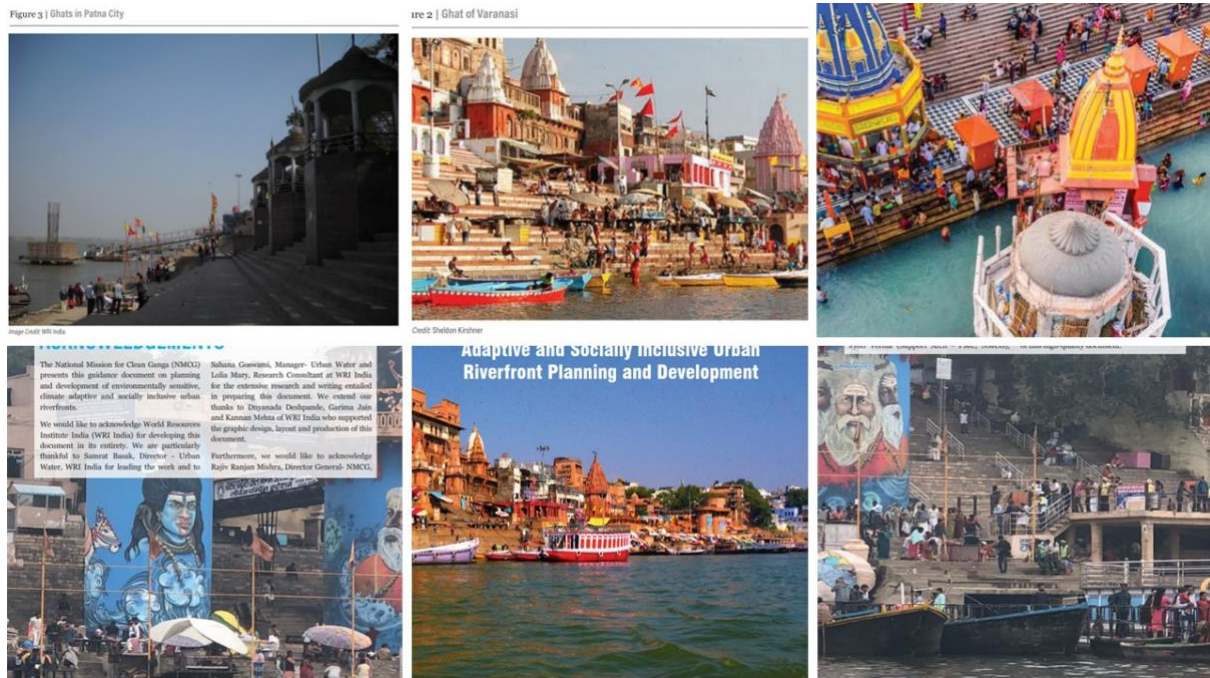

Figure 1. Pictures in the *Namami Gange* 2021 (1)

In Figure 1, it can be seen how the spiritual and religious value associated with the river Ganga through Hinduism takes centre stage within the river rejuvenation. Pictures of temples, *ghats*, murals of Lord Shiv and priests can be seen.

Figure 2. Pictures in the *Namami Gange* 2021 (2)

Expanding on such imaginary, figure 2 further visualises, the spiritual and religious significance of the Ganga in Hinduism playing a central role in the river's rejuvenation efforts. Pictures of temples, *ghats*, puja conducted by a priest, and a statue of God Shiv can be seen.

However, again, multiple imaginaries as at play consecutively. While the document also contains images of boats, riverfront shops, walkways, valleys, vegetation and animals, the images containing cultural symbols and structures remain central. Considering multiple environmental imaginaries through the political ecology framework provides a more nuanced view of the socio-ecological transformation and the following dispossession and resistance. This also expresses the desirability of access to resources for some. These imaginaries facilitate interventions and drive policy designs. They reveal how hybrids are produced and therefore need to be studied intensely.

Importantly, there is a call for India to be imagined and organised in cultural and civilisational terms of ancient Indian values (Kumar 2021, p.4). However, these narrowly refer to Brahmanical Hindu values articulated through the ecological discourse. This is seen as a source of 'lost', 'authentic', 'national culture' that needs to be regenerated. Moreover, Hindutva not only employs a sacred and historical spatial imaginary but also reinforces and enacts a set of spatial relationships between people and their land and environment (McFadden 2024, p.89).

6. Discussion

The concept of water as a historical and evolving hybrid, continuously reshaped by socio-ecological processes, emerges as a critical lens through which to understand the dynamic relationships between society and nature (Bouleau 2014). It is dynamic, produced, and contested by various groups. Water-related socionatures are not static; they evolve through conflicts, contradictions, and the power struggles of various groups (Goldfischer et al. 2019). Swyngedouw (1999, p.446) asserts that "water embodies multiple tales of socionature as hybrid." This perspective underscores the need to understand water-related socio-natures as evolving through dynamic processes, embodying contradictions, tensions, and conflicts. The reworking of these hybrid socionatures, especially in the context of river rejuvenation projects, necessitates a deeper understanding of the socio-political and cultural forces that drive such transformations.

Political ecology scholarship, which seeks to deconstruct the nature/culture binary, provides a valuable framework for understanding these dynamics co-opted by power structures to reproduce uneven urban development, as seen in the case of Delhi's riverfront projects. The

23

inherent power dynamics in human and more-than-human interactions and the production of urban nature are central to understanding inequality and environmental injustice (Goldfischer et al. 2019). As Quastel (2009) highlights, rising environmental awareness in urban spaces often neglects the accompanying issues of inequality, gentrification, and social exclusion that accompany new environmental realities. Therefore, it is vital that blue-green space planning and management intersect with considering the cultural politics of factors such as religion, class, caste, and ethnicity (Truelove 2019; Baviskar 2020). Failure to do so risks perpetuating environmental injustices, even as policies claim to advance sustainability and restoration.

The analysis of river rejuvenation efforts in Delhi reveals several key themes that underscore the complex interplay between environmental and cultural narratives. Socionature relations based on 'Hindu/Indian' teachings, the exclusion of diverse stakeholders, and the symbolic representation of the river as an extension of national identity highlight the challenges inherent in these environmental interventions. These themes demonstrate how environmental initiatives, particularly those tied to Hindutva-linked discourses, often merge ecological restoration with cultural and political goals, producing outcomes that reinforce power imbalances.

The case study reveals that the socionature hybrid approach adopted in projects like *Namami Gange* is a double-edged sword. While it presents an alternative to conventional, technocratic environmentalism by invoking cultural and religious narratives, it simultaneously perpetuates existing inequalities and power dynamics. The romanticization of a harmonious past, rooted in Hindu cultural values, is selectively employed to frame environmental conservation efforts as a return to a golden era. Here the focus on environmental rejuvenation shifts to cultural rejuvenation. However, this vision often overlooks the socio-economic realities and structural inequalities faced by marginalized groups. This disconnect between policy discourse and actual practice underscores the need for a more nuanced understanding of socionature hybrids, one that takes into account the socio-political contexts and power dynamics that shape environmental governance.

This becomes evident in the rejuvenation efforts of the Yamuna floodplains in Delhi, where small-scale farmers, who historically depended on the land, are being forcibly evicted under the guise of ecological restoration. The floodplains are being transformed into biodiversity parks, benefiting elites and middle-class urban visions while displacing vulnerable communities. This reveals the uneven distribution of environmental benefits, as upper-middle-class residents enjoy restored riverfronts, while farmers lose their livelihoods. The framing of these evictions as necessary for ecological rejuvenation hides the underlying power dynamics,

with farmers blamed for pollution, while major polluters like industries and the sand mafia remain largely unaccountable.

The discussion also highlights the danger of using environmental projects like *Namami Gange* as tools for nation-branding and political mobilization. By positioning India as a global leader in ecologically sustainable development, the project generates symbolic and material power that strengthens the government's nationalist agenda. This 'saffronising green' (Sharma 2009) intertwines environmentalism with Hindu nationalist politics, turning rivers like the Yamuna and Ganga into symbols of a broader cultural and political project that seeks to consolidate power through the manipulation of environmental narratives.

Sharma (2002; 2009) argues that Hindu nationalists capitalize on emotional narratives, simplifying India's cultural past. The findings suggest that efforts to recover an idealized socio-nature harmony, rooted in eco-friendliness, often go unchallenged, ignoring the marginalization of communities like those living along riverbanks. The symbolic use of rivers in projects like *Namami Gange* links this romanticized past to nationalist agendas, reinforcing exclusionary policies.

Importantly, while the socionature hybrid approach claims to break down the nature-culture binary by emphasizing the interconnectedness of human and more-than-human systems, it risks essentializing these relationships through a narrow cultural lens. The emphasis on Hindu cultural values as inherently aligned with ecological stewardship glosses over the complex and often conflictual relationships between different social groups and the environment. It also masks the role of the state in actively producing and reproducing these socionature relations in ways that serve political and economic interests.

Environmental politics in India, influenced by Hindutva ideologies, often overlook the deeper structural inequalities that underpin social and environmental relations. While popular religiosity does not necessarily lead to religious conservatism or nationalism, in highly religious societies such as India, religious nationalists can gain power more easily. Such environmentalism often overlooks nationalist and hegemonic social structures (Sharma 2017). Sinha et al. (1997) conclude that a socially just and ecologically sustainable society cannot be achieved by returning to traditional social-ecological relations or through economic and cultural nationalism. In an increasingly urban, consumerist, and industrial society, environmentalism allied with cultural-national 'purification' discourses, like those proposed by Hindu nationalism, can become dangerously chauvinistic (Mawdsley 2004).

Moreover, as Petrova (2023) notes, claims of nature conservation can be wielded to justify oppressive measures, including the displacement of vulnerable communities. The challenge of envisioning a common future involves reconstructing a past that differs from nationalist narratives currently dominating the discourse. Efforts to protect and rejuvenate rivers like the Yamuna must engage with the socio-ecological complexities and power dynamics that shape these projects, ensuring that the voices of marginalized communities are not silenced in the process.

The findings suggest that human-environment interactions, especially amid growing disparities and injustices, are crucial to understand (Clement et al. 2019). The continuous reworking of these hybrid socio-natures necessitates a deeper conceptualisation of power production in society-nature encounters (Tan-Mullins 2007; Goldfischer et al. 2019). While socionature hybrids offer opportunities to engage with local practices and move beyond technocratic solutions, they risk reproducing inequalities if left unexamined. Rooted in romanticized, exclusionary cultural narratives, the current approach risks perpetuating injustice rather than addressing socio-ecological challenges faced by marginalized communities. To ensure environmental governance is inclusive and equitable, it must recognize diverse human-nature relationships and power imbalances. Without critical engagement, projects like *Namami Gange* may prioritize cultural symbolism over genuine socio-ecological justice. Socionature hybrids must be understood as dynamic, shaped by political, economic, and cultural forces, requiring a reflexive approach.

7. Conclusion

In conclusion, the *Namami Gange* project, while positioned as a cultural-religious approach to environmental rejuvenation, fails to fully account for the critical socio-ecological issues affecting the communities it displaces. Framing the river's restoration within a Hindu cultural narrative may appeal to nationalistic sentiments, but it neglects the real-world consequences of evicting marginalized people who rely on these ecosystems for their livelihoods. The project's cultural emphasis risks masking the structural intersectional inequalities of factors such as gender, class, caste, and religion that persist within the larger socio-ecological context.

As discussions around breaking the nature/culture binary gain traction, particularly through nature-based solutions, it is vital to consider the broader socio-political environment in which these ideas are being applied. In India, where nationalist forces are increasingly shaping public discourse, environmental movements are not immune to the dangers of communal rhetoric,

which can exacerbate existing inequalities. This has resulted in the neglect of local people's concerns, leading to short-term, 'bandage' solutions that fail to address the root causes of environmental and social degradation. The neglect of structural bases for socio-ecological and historical inequalities complicates the creation of realistic, long-term agendas for addressing modern problems, such as consumerism.

While breaking the nature/culture binary through a cultural and religious lens can potentially offer alternatives to the technocentric, reductionist, and economically driven philosophy of mainstream sustainable development, it must be done carefully. The integration of cultural and religious narratives into environmental solutions, as seen in *Namami Gange*, is not inherently problematic; in fact, it can encourage meaningful local participation and a deeper connection to environmental practices. Public participation that goes beyond scientific or rationalist principles is essential in fostering inclusive and just solutions. However, when such approaches overlook the power dynamics that operate within and between communities, they can become counterproductive and even dangerous.

Ultimately, achieving genuine socio-ecological justice requires environmental solutions to be situated within local, historical, and cultural contexts. The way forward must involve a nuanced approach that respects the potential for culturally inclusive environmentalism, while also critically addressing the underlying power imbalances that shape these socionature relations. Only by doing so can environmental initiatives like *Namami Gange* fulfil their promise of ecological rejuvenation while promoting social equity and justice for all.

References

Agrawal, A. (2005). Environmentality: technologies of government and the making of subjects. Duke University Press.

Ahlborg, H. and Nightingale, A.J. (2018). Theorizing power in political ecology: The where of power in resource governance projects. Journal of Political Ecology. 25, pp.381-401

Akçalı, E., & Korkut, U. (2015). Urban transformation in Istanbul and Budapest: Neoliberal governmentality in the EU's semi-periphery and its limits. Political Geography. 46, pp.76-88.

Alley, K.D. (2019). River goddesses, personhood and rights of nature: implications for spiritual ecology. Religions. 10(9), pp.502-519.

Baviskar, A. (2020). Uncivil city: Ecology, equity and the commons in Delhi. Newbury Park: Sage Publications Pvt. Limited.

Bhattacharya, A., Dey, P., Gola, D., Mishra, A., Malik, A. and Patel, N. (2015). Assessment of Yamuna and associated drains used for irrigation in rural and peri-urban settings of Delhi NCR. Environmental monitoring and assessment. 187, pp.1-13.

Biro A (2013) River-adaptiveness in a globalized world. In: Chen, C., MacLeod, J. and Neimanis, A. (eds) Thinking with Water. Montreal: McGill-Queen's University Press, pp. 166–184.

Bouleau, G. (2014) The Co-production of Science and Waterscapes: the Case of the Seine and the Rhône Rivers, France. Geoforum. 57, pp.248-257.

Bratton, M. (2012). Peasant-state relations in postcolonial Africa: patterns of engagement and disengagement. In: Migdal, J., Kohli, A. and Shue, V. (eds). State power and social forces: Domination and transformation in the Third World. Cambridge: Cambridge University Press, pp.231-54.

Brosius, C. (2010). India's middle class: New forms of urban leisure, consumption and prosperity. Oxfordshire: Routledge.

Bryant, R.L. and Bailey, S. (1997). Third world political ecology. New York: Routledge.

Clement, F., Harcourt, W. J., Joshi, D., and Sato, C. (2019). Feminist political ecologies of the commons and commoning. International Journal of the Commons, 13(1), pp.1-15.

Delhi Development Authority. (2020). Description of Restoration and Rejuvenation of DDA's project on River Yamuna. Delhi: Government of India. [Accessed 27 May 2020]. Available on: https://yamuna-revival.nic.in/wp-content/uploads/2020/03/Description-of-Restoration-and-Rejuvenation-of-DDAs-project-on-River-Yamuna.pdf

Dominique, B. (2022). Indians are embracing all views without a feeling of inferiority, PM Modi says. Times of India, 13 December. (Accessed 2 May 2023). Available on: https://timesofindia.indiatimes.com/india/indians-are-embracingall-views-without-a-feeling-of-inferiority-pm-modi-says/articleshow/96205168.cms

Escobar, A. (1998). Whose knowledge, whose nature? Biodiversity, conservation, and the political ecology of social movements. Journal of political ecology. 5(1), pp.53-82.

Follmann, A. (2014). Delhi's changing riverfront: bourgeois environmentalism and the reclamation of Yamuna's floodplain for a world-class city in the making. Ville et Fleuve en Asie du Sud: regards croisés. pp.121-139.

Follmann, A. (2015). Urban mega-projects for a 'world-class' riverfront–The interplay of informality, flexibility and exceptionality along the Yamuna in Delhi, India. Habitat International. 45, pp.213-222.

Foster, J.B. (2000). Marx's Ecology: Materialism and Nature. New York: New York University Press.

Gohain, S. (2021). Himalayan environmentalism: Buddhism and beyond. New Zealand Journal of Asian Studies. 23(2), pp.69-90.

Goldfischer, E., Rice, J. L., and Black, S. T. (2020). Obstinate curiosity and situated solidarity in urban political ecology. Geography Compass. 14(2), e12479.

Haberman, D.L. (2006). River of Love in an Age of Pollution: The Yamuna River of Northern India. Berkeley: University of California Press.

Heynen, N., Kaika, M. and Swyngedouw, E. (eds). (2006). In the nature of cities: Urban political ecology and the politics of urban metabolism. Oxon: Taylor & Francis Group.

Kaur, R. (2016). Post-exotic India: on remixed histories and smart images, Identities. 23(3), pp.307-326, DOI: 10.1080/1070289X.2015.1034134

Keil, R. (2007) Sustaining Modernity, Modernizing Nature: The Environmental Crisis and the Survival of Capitalism. In: Krueger R. and Gibbs. D. (eds), The Sustainable Development Paradox: Urban Political Economy in the United States and Europe, London: Guilford. pp.41-65.

Krejčík, J. (2019). From Gandhi to Deendayal: Contradictions of conservative Hindu tendencies in Indian environmental thinking. Civitas-Revista de Ciências Sociais.19(2), pp.374-390.

Kumar, V. R. (2021). Ecological nationalism in India. Book Rivers.

Latour, B. (1993). We have never been modern. 2nd ed. Massachusetts: Harvard University Press.

Malloy, T.H. (2009). Minority Environmentalism and Eco-nationalism in the Baltics: Green Citizenship in the making?, Journal of Baltic Studies. 40(3), pp.375-395, DOI: 10.1080/01629770903086269

Mawdsley, E. (2004). India's middle classes and the environment. Development and Change. 35(1), pp.79-103.

Mawdsley, E. (2005). The abuse of religion and ecology: the Visha Hindu Parishad and Tehri Dam. Worldviews: Global Religions, Culture, and Ecology. 9(1), pp.1-24.

McFadden, A. (2024). Hindutva Civilizationism in India: Unravelling the Human-Ecological Conditions. Nordia Geographical Publications. 53(1), pp.83-96.

Milton, K. (1996). Environmentalism and Cultural Theory: Exploring the Role of Anthropology in Environmental Discourse. London: Routledge.

Mol, A. (2003). The body multiple: Ontology in medical practice. Durham: Duke University Press.

Morrison, T.H., Adger, W.N., Brown, K., Lemos, M.C., Huitema, D., Phelps, J., Evans, L., Cohen, P., Song, A.M., Turner, R. and Quinn, T. (2019). The black box of power in polycentric environmental governance. Global Environmental Change. 57, pp.101934-101943.

Namami Gange (2021). Guidance Note for Environmentally Sensitive, Climate Adaptive and Socially Inclusive Urban Riverfront Planning and Development. Government of India, Delhi. [Accessed 09 November 2021]. Available on: https://nmcg.nic.in/writereaddata/fileupload/34_RFT%20Document-8_com.pdf

Namami Gange and National Institute of Urban Affairs. (2020). A Strategic Framework for Managing Urban River Stretches in the Ganga River Basin Urban River Management Plan (URMP). Delhi: Government of India. [Accessed 27 February 2021]. Available on: https://nmcg.nic.in/writereaddata/fileupload/48_Urban%20River%20Management%20Plan%20framework.pdf

Nanda, M. (2002). Breaking the spell of Dharma and other essays. Three Essays Press.

Narayanan, V. (2001). Water, Wood and Wisdom: Ecological Perspectives from the Hindu Traditions, Daedalus. 130(4), pp.179-205.

O'Donnell, E. (2020). Rivers as living beings: rights in law, but no rights to water?. Griffith Law Review. 29(4), pp.643-668.

Pathak, G. (2022). Nation branding, soft Hindutva, and ecotraditionalism in anti-plastics discourses in India, Identities. 29(6), pp.768-786, DOI: 10.1080/1070289X.2021.1920773

Paulson, S. and Gezon, L.L. (eds). (2005). Political ecology across spaces, scales, and social groups. New Jersey: Rutgers University Press.

Peet, R. and Watts, M. (eds). (2004). Liberation ecologies: Environment, development, social movements. 2nd ed. London: Routledge.

Peet, R., Robbins, P. and Watts, M. (eds). (2011). Global political ecology. London: Routledge.

Pessina, G. (2018). The 'Missing Conflict' of the Sabarmati Riverfront. Authoritarian Governance, Neoliberalism and Water in Ahmedabad, India. Partecipazione e Conflitto. 11(3), pp.692-716.

Petrova, S. (2024). Socio-ecological precarity at the juncture of multiple crises. Progress in Human Geography. 48(1), pp.35-48.

Quastel, N. (2009). Political Ecologies of Gentrification. Urban Geography. 30(7), pp.694–725. https://doi.org/10.2747/0272-3638.30.7.694

Ribot, J.C. and Peluso, N.L. (2003). A theory of access. Rural sociology. 68(2), pp.153-181.

Robbins, P. (2019). Political ecology: A critical introduction. 3rd ed. West Sussex: John Wiley & Sons.

Rosencranz, A., and Kaul, D. K. (2017). Are rivers really living entities?. Environmental policy and law. 47(2), pp.54-58.

Sauer, C. (1963). The morphology of landscape. In: Leighly, J. (ed). Land and Life: A Selection from the Writings of Carl Ortwin Sauer. Oakland: University of California Press, pp. 315-350.

Sharma, D. and Kansal, A. (2011). Water quality analysis of River Yamuna using water quality index in the national capital territory, India (2000–2009). Applied water science. 1, pp.147-157.

Sharma, M. (2002). Saffronising Green. Seminar 516. (Accessed on 14 April 2024), Available on: https://www.india-seminar.com/2002/516/516%20mukul%20sharma.htm

Sharma, M. (2009). Passages from nature to nationalism: Sunderlal Bahuguna and Tehri Dam opposition in Garhwal. Economic and Political Weekly, pp.35-42.

Sharma, M. (2017). Caste and nature: Dalits and Indian environmental policies. Oxford University Press.

Sharma, P. and Kaur, S. (2020). Environmental Compliance Status with Special Reference to *Namami Gange* Project. Studies in Indian Place Names. 40(40), pp.168–179.

Shekhar, S. and Sarkar, A. (2013). Hydrogeological characterization and assessment of groundwater quality in shallow aquifers in vicinity of Najafgarh drain of NCT Delhi. Journal of Earth System Science. 122, pp.43-54.

Singh, A., Sharma, R.K., Agrawal, M. and Marshall, F.M. (2010). Health risk assessment of heavy metals via dietary intake of foodstuffs from the wastewater irrigated site of a dry tropical area of India. Food and chemical toxicology. 48(2), pp.611-619.

Singhal S. (2023). Uncovering the Silences: Environmental Knowledges in the Floodplains of Yamuna, Delhi, Decolonial Subversions, pp.53-66.

Sinha S., Gururani S. & Greenberg B. (1997). The 'new traditionalist' discourse of Indian environmentalism, The Journal of Peasant Studies. 24(3), pp.65-99, DOI: 10.1080/03066159708438643

Sivaramakrishnan, K. and Cederlöf, G. (2006) Introduction. In: Cederlöf G. and Sivaramakrishnan, K. (eds) Ecological Nationalisms: Nature, Livelihoods and Identities in South Asia. Seattle: University of Washington Press, pp.1-42.

Smith, N. (2002). New globalism, new urbanism: gentrification as global urban strategy. Antipode. 34(3), pp.427-450.

Smith, N. (2011) Blood and soil: nature, native and nation in the Australian imaginary, Journal of Australian Studies. 35(1), pp.1-18, DOI: 10.1080/14443058.2010.541475

Svarstad, H., Benjaminsen, T.A. and Overå, R. (2018). Power theories in political ecology. Journal of Political Ecology. 25(1), pp.350-363

Swyngedouw, E. (1996). The city as a hybrid: On nature, society and cyborg urbanization. Capitalism Nature Socialism. 7(2), pp.65-80.

Swyngedouw, E. (1999). Modernity and hybridity: nature, regenerationismo, and production of the Spanish waterscape, 1890–1930. Annals of the Association of American Geographers. 89(3), pp.443-465

Swyngedouw, E. (2004). Social power and the urbanization of water: flows of power. Oxford: Oxford University Press.

Swyngedouw, E. (2023). Liquid power: Contested hydro-modernities in twentieth-century Spain. Cambridge: MIT Press.

Tan-Mullins, M. (2007). The state and its agencies in coastal resources management: the political ecology of fisheries management in Pattani, southern Thailand, Singapore Journal of Tropical Geography. 28, pp. 348–61.

Taylor, D. E. (1997). American environmentalism: the role of race, class and gender in shaping activism 1820-1995. Race, Gender & Class. pp.16-62.

Thakkar, H. (2019). Challenges in water governance-a story of missed opportunities. Economic and Political Weekly. 54(15), pp.12-14.

The Print (2024). "It is very important to keep Ganga clean…" Hema Malini on her "Ganga" themed dance ballet', 14 March. (Accessed: 15 November 2024). Available at: https://theprint.in/india/it-is-very-important-to-keep-ganga-clean-hema-malini-on-her-ganga-themed-dance-ballet/1442441/.

Toxopeus, H. and Polzin, F. (2021). Reviewing financing barriers and strategies for urban nature-based solutions. Journal of Environmental Management. 289, 112371.

Truelove, Y. (2019). Rethinking water insecurity, inequality and infrastructure through an embodied urban political ecology. Wiley Interdisciplinary Reviews: Water. 6(3), e1342.

Wang, Y., Mukherjee, M., Wu, D. and Wu, X. (2016). Combating river pollution in China and India: policy measures and governance challenges. Water Policy. 18(1), pp.122-137.

Watanabe, C. (2019). Becoming one: Religion, development, and environmentalism in a Japanese NGO in Myanmar. University of Hawaii Press.

Watts, M. and Peet, R. (1996). Conclusion: Towards a theory of liberation ecology. In Peet, R. and Watts, M. (Eds), Liberation ecology: Environment, development, social movements, pp. 266-269. London & New York: Routledge.

Wijsman, K. and Berbés-Blázquez, M. (2022). What do we mean by justice in sustainability pathways? Commitments, dilemmas, and translations from theory to practice in nature-based solutions. Environmental Science & Policy. 136, pp.377–386.

Wodak, R. (2023). Politics as usual: Investigating political discourse in action. In: Handford, M. and Paul Gee, J. (eds). The Routledge handbook of discourse analysis. London: Routledge, pp. 595-609.

Yamuna Monitoring Committee. (2020). Fifth Report of the Yamuna Monitoring Committee. Delhi: National Green Tribunal. [Accessed 26 December 2021]. Available at: https://yamuna-revival.nic.in/wp-content/uploads/2020/12/Fifth-Report-of-YMC-with-Annexures-07.12.2020.pdf

Zimmer, A., Véron, R. and Cornea, N.L. (2020). Urban ponds, environmental imaginaries and (un) commoning: An urban political ecology of the pondscape in a small city in Gujarat, India. Water Alternatives. 13(2), pp.225-247.