

THE RIVER MHADEI: THE SCIENCE AND POLITICS OF DIVERSION

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EDITORS

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The River Mhadei

The Science and Politics of Diversion

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*To
the people
of the Mhadei*

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Foreword

WE are living in elemental times. The health of our earth, our air, our fire, and our waters, will do much to determine human futures and the futures of all the creatures and beings with whom we share the planet.

The *earth*, and the liveliness of the millions of beings it comprises—bacteria, nematodes, protozoa, fungi—will determine the quality of the harvests that remain to us and make the difference between famine and well-being. The *air*, and its changing composition, will determine not just the global heating of the planet—with all its consequences—but also whether we can breathe each day. In contrast, the *fires* we light every day—in cars, in airplanes, in each tap of a keyboard demanding energy production somewhere—are no longer providing invisible assistance, but collectively warming the atmosphere, transforming themselves into raging wildfires in tinder-dry forests.

Water, however, has a special place in these elements. It is to water that we turn as respite from the other elements. We ask our rivers to carry away our pollution. We trust in our oceans to absorb our carbon and provide us with fish. We look to our lakes and aquifers to quench our impoverished soils and to fight fires.

In so doing, we too often forget that water has a life of its own, and that it lives according to its own timings, not ours. Water brings stories of rainfall dropping centuries ago, making its way slowly through underground passageways bringing memories of rock and minerals; stories of torrents rushing off parched land carrying topsoil and silt; stories of flooded farmland, bringing whatever fertilizers covered the land that day; and stories of quiet pools and waterfalls where offerings are left and children bathe, where people fish and make a living.

Water tells us that a river, a lake, an ocean, is a million different stories, a million connections to people and practices. And as we drink from the river, as we fish or swim in these lakes, as our bodies absorb that water, we too become part of that story.

Our bodies are 60% water.

The Whanganui iwi, guardians of the Whanganui river (the first river to be recognized as a person in law), say: *Ko au te awa, ko te awa ko au*—I am the river and the river is me.

This is knowledge too many of us have forgotten.

And at the heart of this knowledge we have forgotten is the knowledge of the unique temporalities of water.

Water is both finite and endless. All the water on the planet is all there has ever been and all there will ever be. As Anishinabe scholar Leanne Betasamoske Simpson (2025) writes: “Every drop is all the water that has ever been on the planet. And all life shares this water.”

There is no new water, there is no waste water, there is only water.

The water we drink, swim in, water crops with or let run down a drain; the water that feeds a plant, nourishes a family, carries away sewage into oceans; all this is water that will circulate through other lands, other bodies, other oceans, other skies.

There is no waste water, there is no new water, there is only water.

And as such, stories of water are always entangled with stories of all life forms on the planet, in a region, in a watershed.

This unique temporality of water demands a unique form of governance; a form of governance that is adequate to the entangled stories of water and its relations; a form of governance adequate to water’s refusal to sit within state boundaries, within administrative structures, within disciplinary boxes; a form of governance adequate to water’s role as a source of life.

This is why this book is so important.

Through a meticulous interdisciplinary case study of the contested pasts, presents and futures of the Mhadei River in Goa, this book adds to the growing literature on the life and times of water, and gestures towards the new forms of politics and governance that are required to care for it. It explores the question of how the Mhadei, at risk of diversion, extraction and damming, might be understood through the multiple political, cultural, geological, biological, ecological and historical lenses needed to recognise the river in all its relations.

The book helps us notice, in a new way, all that it takes to create a river, and all that a river creates. It enables us to glimpse the near-limitless abundance of relationships that constitute a river in what Deborah Bird Rose (2012), drawing on Aboriginal elders’ knowledge, calls “multispecies knots of ethical time.” From its source in the rain and cloud forests, to its touching of the

Arabian sea, the co-evolution of different species are held together around and through the Mhadei river in deep interdependent relationships of gift and obligation, of exchange and intergenerational responsibility.

The book also shows the huge harms that arise when such interdependencies are ignored, and the current failure of legal and administrative systems to grapple with and respond to such relationalities.

The project from which this book is drawn is part of a wider programme, “The Times of a Just Transition,” funded by the British Academy to examine the intersection between questions of time, sustainability and justice (The British Academy, n.d.). This programme owes its existence, in large part, to Peter de Souza’s willingness to enthusiastically support and encourage the idea at its earliest stages—responding generously to hurried emails sent in the run-up to urgent funding application deadlines. It is fitting then that Peter’s project and this book that he has shepherded into existence over the last three years should demonstrate so clearly the utility and importance of working with time and justice as twin concerns in environmental and sustainability debates.

At the heart of this account of the life and potential death of the river are three critical temporal questions:

When does the story of this river begin and when might it end?

What are the rhythms of this river, and with what other rhythms are they interdependent?

And from both of these—what then do we owe future generations in caring for this river?

In answering these questions in relation to the Mhadei, the authors invite us to reimagine this river as a being of multiple temporalities – the geological, the ecological, the cultural and the political.

They invite us to notice the deep time histories that set a new starting point for the story of the river and that call us into awe-full respect for its cosmic, more-than-human significance. They ask us to consider cosmological time, and geological time, and what it means to encounter not just a “water resource” but a river as “mother goddess”—Mhadei.

They invite us to contemplate what it might mean for political and engineering temporalities to “kill” a river—to bring about its death through diversion and damming—imagining a human-induced ending to an eternal being.

They invite us to notice the rich, interdependent ecosystems that reframe the life of a river as the life of a watershed, a life that encompasses both

ocean creatures and monsoons, both long-tailed bats and pangolins, and that holds them all in a tidal rhythm, with its necessary flows and falls.

They invite us to encounter the river as a form of life whose rhythms are increasingly disrupted by the rhythms of industrial agriculture and extraction, by enclosures and infrastructures, with disastrous consequences for people and ecosystems.

And they invite us to consider the political and cultural responsibilities that arise when considering a river in its own intergenerational temporal frames, rather than the short-term time frames of politics.

Temporal justice, as our programme is discovering, is neither simple nor universal. Working towards temporal justice demands, as I have argued elsewhere, an engagement with the multiple, situated temporalities of any given conflict (Facer 2024). It requires a new form of imagination capable of *interrupting dominant temporal assumptions*, of *tuning in to the many temporal frames and rhythms* of the situation, and of finding *new ways of negotiating* between them. This book offers such a rich temporal imagination: challenging the temporal hegemony of “progress” understood as continued extraction and expansion of demand and industrial agriculture as well as the temporal dominance of the short-term; tuning readers in to the multi-layered rhythms of everything from fishermen and casinos to ancient swamps and flying squirrels; and, perhaps most importantly, beginning to imagine new governance structures and systems that might enable negotiation between these rhythms and responsibilities.

This book is, the authors rightly argue, “Goa’s contribution to the global debate on safeguarding rivers and making them sustainable.” It can be read alongside the wider struggles for water rights and water defence of Indigenous writers and scholars around the world, as well as contributing to the work of a growing body of researchers such as Miriam Jensen, Michelle Bastian, and Scott Bremer, who are beginning to articulate what it might mean to construct new forms of governance for temporally complex situations. For those of us working in universities, this work is also an example of the collective, transdisciplinary and multiple ways of knowing that are required to get to know a river and begin to understand the forms of governance—or in De Souza’s words, trusteeship—that might be required to steward a river for future generations.

I have long been grateful to Peter for answering my email three years ago, which helped the Times of a Just Transition programme come into being. On reading this book, I am now also grateful for the careful, thoughtful interven-

tion that this collective endeavour will make in the wider global discussions on the times, rhythms and futures of our rivers and their living waters.

I sit writing this not far from a struggling river in northern France, a river dammed and locked throughout its journey to the sea, its waters sluggish and slow. And as I write, I think also of the struggling rivers of my home country, England, drowning in fertiliser and waste and starved with over-extraction. The possibility of life returning to these and other rivers is all the greater with this inspiration from the river Mhadei, the mother goddess, in all her rich liveliness, and the invitation that she offers to first dream and then create multi-actor, multi-discipline, multi-species parliaments of rivers capable of caring for water and all its relations.

Keri Facer

by the River Vilaine, July 2025

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tructure projects like Bidar's multi-arch dams. His reporting on the kidnapping of actor Rajkumar gained wide attention. As India coordinator for BBC Radio, he worked on projects about the tobacco industry, Kaveri dispute, and the IT revolution. Fluent in English, Kannada, and Hindi, he holds degrees in English Literature, Political Science, and Law. He also edits and translates, organizing initiatives like a Wikipedia editathon in Bidar.

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Vasudha Sawaiker trained in law at V.M. Salgaoncar College of Law, Goa University and has a post-graduate degree in social work from the Tata Institute of Social Sciences (TISS), Mumbai. At TISS, she was awarded the prize and shield for being the best student in Dalit and Tribal Social Work. As a lawyer, she represented clients in cases on social justice and inclusion in public employment. Her legal research encompasses diverse areas such as organ donation, forest rights, and construction workers. She was awarded the UGC-JRF Fellowship in Social Work in 2016 and is presently a research scholar at the School of Sanskrit, Philosophy and Indic Studies, Goa University.

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Nirmal U. Kulkarni is a herpetologist and nature photographer with over two decades of experience in conservation science and field herpetology in tropical forests of Western Ghats and North East India. He has served as an Expert Member of the Goa State Biodiversity Board and Goa State Wildlife Advisory Board for two terms, besides being part of various state and national committees on wildlife and research. Nirmal is currently Chairman

of the Mhadei Research Centre, Goa, India and is leading research projects on the Leith's soft shell turtle in Karnataka, a snake bite awareness project in Goa, and a monitor lizard project investigating illegal trade in India. As an ecologist, Nirmal is involved in long term monitoring of the Chorla Ghats forests and the adjoining Mhadei bio-region. His research interests include field herpetology in tropical forests, tackling the organized illegal wildlife trade and conservation education.

Vidyadhar Atkore is a freshwater ecologist by training, interested in quantifying the anthropogenic and environmental factors on freshwater biodiversity across different scales. Currently he is a faculty member at the Salim Ali Centre for Ornithology and Natural History (SACON), South India Centre, Wildlife Institute of India, Coimbatore. He teaches wetland ecology and management, ichthyology, landscape ecology, GIS, human ecology and ecohydrology.

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Dhirendra M. Deshpande has nearly four decades of experience in Indian higher education, starting as a Lecturer in a degree college in Goa, working in various capacities in reputed institutions such as Symbiosis, Pune, KLE Society, Bengaluru, as Faculty, Principal, Director and finally retiring as the Vice Chancellor of ISBM University in Chhattisgarh. As a columnist for a leading daily newspaper in Goa, he has rich experience in writing on a range of economic and policy issues such as budgets, monetary policy, reforms and liberalization. As a faculty in Symbiosis, he was associated with guiding and evaluating various finance-related projects that included building economic models for producing hydroelectricity, long-range demand and sales forecasting.

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Manisha Rodrigues is an architect based in Goa. She holds a Bachelor’s degree from the Goa College of Architecture and a Master’s in Architecture with a specialization in architectural conservation from CEPT University, Ahmedabad. With over a decade of experience in practice and more than three years as an assistant professor at her alma mater, the Goa College of Architecture, her work often explores the intersections of water, heritage, and the built environment. She was part of projects like the Serampore Initiative led by the National Museum of Denmark, which documented Indo-Danish heritage along the Hooghly River. Her academic and professional work reflects a deep connection to water and cultural landscapes—from the Sabarmati and Hooghly to the Sal and Mandovi rivers in Goa. As a fellow of the Goa Wa-

ter Stories fellowship by the Living Waters Museum, she explored “What is a river?” through the lens of the built environment of the Mhadei–Mandovi–Mahadayi River. She currently leads her practice in Margao and continues to engage with architectural education as visiting faculty at the Goa College of Architecture.

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Maya de Souza has an inter-disciplinary background with over twenty years’ experience in public policy and the law. She graduated from Oxford University in Philosophy, Politics and Economics before studying and practising law. After an L.L.M. (London), graduating with distinction, she joined the Department for the Environment, Food and Rural Affairs in the UK Government Legal Services and later moved to policymaking. She headed various teams on better institutional structures for flood risk and integrated water management where she led a project on holistic approaches to water management in the climate risk context. She has also headed the Business Environment Council Hong Kong’s Policy and Research Team, leading projects on climate resilience; and served on the BITC–UK Circular Economy team as Co-Director, Environment. Maya has been an elected Green Party councillor in London, playing an active role in town and country planning and scrutiny of the environment among other policy areas. Currently, Maya lives and works in Goa, and is a co-director of Act for Goa, co-founder of Materia Verde (a new biomaterials industry accelerator powered by Quicksand). She was previously with Bangalore-based think tank, CSTEP. She also works with various consultancies on future-proofing and strategic insight.