Introduction

Predicaments of Power and Nature in India: An Introduction

Gunnel Cederlöf^{a,#} and Mahesh Rangarajan^b

^aDepartment of History, Uppsala University, Uppsala, Sweden

^bDepartment of History, University of Delhi, Delhi, India

*Corresponding author. E-mail: gunnel.cederlof@hist.uu.se

DOI: 10.4103/0972-4923.65169

Political leaders and the media, corporations and popular movements, are all engaged with issues of how to strike a balance with nature more than ever before. Climate change and the loss of biological diversity, the threat of nuclear contamination and the issues of wider ecological security of the underprivileged, are all among the issues that jostle for attention. With recent regime-shifts on the global political arena, commitments that were earlier out of sight are now plausible. However, while time was running short, partisan national interests took centre stage. This was starkly evident in the run up to the Copenhagen United Nations Convention on Climate Change in December 2009. The prospects for a global commitment on how best to reduce greenhouse gases were hard to reach at Copenhagen.

This is not the first time in human history that people have foreseen or feared such threats to human life. The aftermath of the Second World War saw public protests that led to early restraints on nuclear tests in the atmosphere and in the ocean.² In 1962, the publication of *Silent Spring* led to a larger awareness of more unseen threats such as the ecological and health impacts of chemical pesticides.³ A decade later, the nations of the world met at Stockholm, where the book by the economist Barbara Ward and the geneticist, Rene Dubois, set the tone. It was called *Only One Earth*.

Perhaps it is true that in this new century, the scale of the problems, as also the recognition of the need for action, has been without precedent. The predicament was summed up aptly by Nobel Laureate, Paul Crutzen. In a world where the older industrialised nations are now uneasily sharing space with newly emergent powers. A scholar of the ozone layer, Crutzen placed the issues of its depletion and attempts to reverse that process in a larger perspective. With regard to predicting the future, we are in *terra incognita* (unknown lands). In a desperate act to find a technical solution to globally rising temperatures, he has calculated an alternative way of cooling the earth through geo-engineering. It would take one to two million tons of sulphate aerosols to be sent up in the

middle atmosphere every year to create a reflective shield that would keep temperatures down, while emissions still need to be reduced by 60%. "Equally ridiculous!" is Crutzen's own verdict of such solutions. Immediate political and legal action is a more viable way.

What Prof. Crutzen said is as significant as where he chose to say it. The venue was the first ever global conference of environmental historians. Comprising as they do perhaps a small group of practitioners of their discipline of history, they may well have added insights drawn from the past. 4 Such acute crises call for commitment and cooperation, and joint action on a scale without precedent in global history. The attempts in the twentieth century to rid the world of the scourge of war and limit the nuclear arms race are evidence enough to show how complex the task of cooperation and peaceful joint work actually are. With the challenge we now face, this is all the more so, with over 200 nation states with great disparities between and within them in economic endowment and ecological footprint, in political orders and social systems. The planet may be unified by ecological systems, but it stands divided by human interactions (McNeill 2000).

However, as the historical causes to the global crisis are unequally distributed across continents, so are the responsibilities. This has opened up a process of uncertain negotiations about the possibility of legally binding commitments relative to each country. Furthermore, India, together with China, has become a key player. The change of scenery on the world stage is remarkable considering that we are only about six decades from the Indian independence, after two centuries of colonial rule, and similarly from the Chinese revolution and its violent aftermath. Both countries have held key roles in the rise of the West; India as a source of human and material wealth, China as a dependent market. In addition, the two countries account for four of every ten people on earth and have among the fastest growing economies on the planet.⁵

The very numbers of people in India and China, nearly 2.5 billion together, and their late start of industrialisation as well

222 / Cederlöf and Rangarajan

as their geographical location in monsoonal Asia make these processes different in socio-ecological terms from Europe, North America and Japan. The political leaderships of India and China for all their differences will not settle for second place. The emergence of the G20 is testament to their ascendancy. Yet there are polluted cityscapes, contaminated groundwater, dying water bodies and threatened coastal estuaries—all looking like a price too high to pay.

However, the similarities end here. It is true that both India and China face extensive debates on how to reconcile growth with equity and ecology—whether or not to build big dams, how best to secure spaces for nature, or when and where to convert fertile arable land to industrial sites. While India underwent a transition from colonial rule to a diverse multiparty democracy, having a vibrant tradition of debate, dissent and difference in the public arena to build on, China rests on a one-party state. No doubt Indian democracy has its flaws, as contributions in this issue discuss in detail, but compared to China, the Indian public space is more open. In many cases and in diverse ways the richness and vibrancy of the debate in and (not just) about India parallels and anticipates key strands of thought and action in the industrialised world.

Yet, the Chinese or Indian cases cannot be viewed in isolation from the larger global picture. All agree on the urgency of action, but as long as the western industrialised countries, including the former colonial powers, will not commit themselves to significant reductions and compensate for historical offences by taking on the costs for the necessary improvements, countries like India see no reason to take the lead. Thus, the issue of environment is often pitted against legacies of history and aspirations for development and historical justice.

The articles in the special section of this journal attempt to explore different facets of the interconnections of nature, knowledge and power. Mahesh Rangarajan's (Conservation and Society 7(4): 299-312, 2009) contribution is a detailed study of the environmental record of a specific leader, India's Indira Gandhi (1917–1984). Nearly four decades have passed since the United Nations Conference on the Human Environment, in Stockholm, in 1972, where Indira Gandhi, as India's Prime Minister, pointed out the risk caused by international inequalities for failed global commitments to protect nature. Poverty, she argued, was the greatest polluter, but material want could only be overcome with access for all to technology and science. The power of Prometheus, the judicious Greek God of fire, could not be confined to a few. The world has changed a great deal since then as the Eastern Bloc dissolved at the end of the 1980s, but the division of the developed and the emergent economies is, if anything, even wider. Such concerns are the highest on the agenda today in the negotiations of the Copenhagen accord, due to continue through 2010.

Indira Gandhi also spoke of the necessity of redressing social inequalities for securing the integrity of the environment. She argued that vulnerable environments could not be pitted against vulnerable people. The poor people, dependent on

forest produce and shifting cultivation, could not be expected to pay for the protection of wildlife by the loss of their own livelihood. Considering the trajectory of displacements and other heavy handed measures for the protection of forests since the seventies, apparently, visions have not transformed practice to any greater extent. Gandhi's environmental legacy is a mixed one, as it involves the unsolved contradiction, on the one hand, of her conservation initiatives and commitment to ease the consequences for the rural and tribal poor and, on the other, her increasingly autocratic exercise of state power and centralised framework. In his study of Indira Gandhi's political engagement with environment in this special issue, Rangarajan concludes that Gandhi's concerns were both ecological and nationalist. Responses to ecological dilemmas could also have serious and often negative consequences in social justice terms. Watching the present diplomatic battles on global warming from the sidelines, the nation state representatives' positions may also well be summed up as being both ecological and nationalist, while environmental issues remain boundless and

Making peace with the planet also requires making room for nature and, while international agreements on climate change must necessarily address the global audience, protection of threatened flora and fauna is located within the national legal frame. India's nature reserves expanded in size and were placed under intensive protection from the late 1960s. However, as the size and acreage of the protected zones have risen, so has the potential for both conflict and cooperation. Conflicts between national and local priorities come to the fore in the comparative study of the two wildlife sanctuaries, Kuno in Madhya Pradesh and Bhadra in Karnataka, India. It shows that it takes access to political and economic resources to be able to secure one's own rights in situations of displacement and relocation—resources mostly out of reach for the poor. As on the global scale, those least guilty of the increasing pressures on nature are often expected to pay the bill. When subjecthood turned into citizenship in India, the competence required for accessing full membership in the polity remained unequally distributed. 'Displaced people who lack information, organisation and political clout are poorly positioned to access their de jure right to compensation and rehabilitation', argues Asmita Kabra (Conservation and Society 7(4): 249-267, 2009). Can this cycle be reversed and restitution made a norm rather than a rare exception? In effect, this is as much a test of the world's largest democracy as it is of conservation with a human dimension.11

Alongside the formation of the modern state, conflicts over whose priorities were to define the space and use of nature escalated. Commercial, security, livelihood, revenue, ecology and wildlife, and many other interests have collided over the last two centuries. When the state bureaucracy grew at the end of the nineteenth century, synoptic visions with the principle of 'one medicine cures all illnesses' was more frequently heard in the policy debates. Nevertheless, at the level of implementation, extensive adjustments were often made as a result of local protest, local government servants'

reinterpretation of orders into local realities and negotiations with local elites. Even such often stereotyped, grand-scale interventions in nature as scientific forestry were influenced in their constitution in central Europe by a mix of influences. There was violent local resistance, foresters witnessing the forests' increasing vulnerability to droughts, storms and pests, and there was a reverse flow from forestry practice in India into Europe.¹²

Human-nature relations have been contested spaces throughout the formation of the modern Indian nation. Fears of crisis have been voiced from quite different positions. They emanate from people losing livelihood and land, or from scientists observing degradation of nature and species depletion, or from officials facing immediate revolts against the implementation of state regulations. Colonial legacies are evident in today's India—in institutions, policy and practice. Apparently, against the backdrop of positive discrimination and social reform, the logic of the modern state's priorities often supersedes those of colonial versus independent state institutional practices. As several authors have argued, alongside increasing demands on forests for profit and revenue yielding timber, land alienation among Scheduled Tribes (ST) has not decreased after independence, but by far outnumbers the pre-independence situation. Among those displaced by industrial, mining and power plant projects in the state of Madhya Pradesh, the share of ST communities amounts to a percentage far above their share of the total population, in the state of Madhya Pradesh.

There were many distinct phases in the evolution of forest policy, but notably, by 1980, the sequestration of forest estate for conservation took up a central place. This in turn was preceded by a protracted phase where agrarian expansion and industrial raw material extraction was given priority. Several scholars, notably Ramachandra Guha and Madhav Gadgil, had argued about how the state had given priority to securing the resource for a few as against the rights of forest-dependant people, taking account of the great variations across time and space in a vast country.¹³

Often, many different interests come into view in contradictory government approaches to people in the hill and forest tracts. What is at times described as a conspiracy of greed, poorly hidden behind a benign façade, may as well reveal poorly synchronised policies or government departments at odds with each other. Thereby, commercial interests have come hand-in-hand with environment protection initiatives to form an agenda to change forest resourcedependent people into 'modern' or 'civilised' members of the nation. In nineteenth century Singbhum, as Sanjukta Das Gupta (Conservation and Society 7(4): 227-238, 2009) shows, such subjecthood came at the cost of a complete change of socioeconomic and cultural transformation of forest-dependent communities. Here, the government initiated commercial timber extraction, while simultaneously expressing concerns about the risk of forest depletion if communities such as the Ho continued to have free access. The forest conservation laws were argued to be in the best interest of the Hos, since they would be protected from denuding the forest, while they themselves could become settled agriculturists. As in so many other cases of popular responses to state interventions, the Hos did not respond violently. They continued being dependent on the forest, combining its use with settled cultivation. As a result, they came under increasing pressure for violating the new regulations. Over time, cultivation increased significantly through a profound agricultural transformation, while private timber agencies made commercial use of the forests.

The Van Gujjars in Uttarakhand have faced a similar fate. Through fieldwork spanning over the last quarter of a century, Pernille Gooch (Conservation and Society 7(4): 239-248, 2009) shows how this nomadic pastoral community has coped with continuous socio-cultural stress emanating from the colonial government's introduction of modern forestry. She specifically highlights the colonial continuities, arguing that the present policies have been carried over from the colonial regime. In 1983, the Rajaji National Park was created out of three sanctuaries. As a consequence, in the 1990s, the Van Gujjars lost access to the main part of their winter pastures in the Shiwalik foothills and about a decade later their summer pastures in the upper ranges also came within the purview of heritage or wildlife protection measures. Again, the threatened mega fauna has been projected to be in conflict with a community whose livelihood depends on their access to the forests. Elephants in Rajaji, tigers in Bhadra and potential lion habitats in Kuno—all are species in need of *in situ* protection.¹⁴

How far these conflicts are evitable and to what extent they are unavoidable depend on whom you ask. Many biologists see the incompatibility of human settlements and production with large vertebrates as a given. Many students of society and culture would point to the graded scales and intensities of the conflicts contingent as a kind of social setting, economic profile and cultural setting. Both have a point. Nature's ability to reconcile competing human interests is not limitless nor are all humans equally culpable of exploiting nature. The challenge as always is to craft responses that allow for human dignity and aspiration, without harming the integrity of ecologies that are increasingly vulnerable, fragile and under threat. How can societies that are so fundamentally unequal come to terms with knowledge, justice and wealth sharing, while allowing space for nature? In a sense, the challenges on a national and regional level are as complex as those of the planet at large. 15

If the problems are all too real so too is the potential for advance. As the cases of Rajaji, Kuno and Bhadra show, access to knowledge and information is crucial for the options available to the different communities, the claims they can make and the quality of actions they can opt for. However, this is not just any knowledge, but an insight into how the state and the legal arena work. Place-based knowledge; knowledge about localised and resource-dependent livelihoods—which is crucial for survival in a particular place—remains a poor resource for claiming and accessing citizen rights. Nongovernment agencies and organisations have been instrumental in improving the odds; yet inalienable to citizenship is the full access and the capacity to exercise all the rights vested in

224 / Cederlöf and Rangarajan

the polity, the realisation of which remains one of the biggest challenges to the modern Indian nation.

In this regard, the larger setting is that of the forest, rivers, shores, cities, and mountains not only being geographical spaces but also legal entities. The law, court rooms and legal practice set frames. In environmental social science, forests have long had a priority over other ecosystems. Being a vast natural resource and placed under colonial government-led utilitarian scientific experiments very early, may partly explain such a focus. In this special issue, keeping such a focus only serves to narrow down the problems of law and nature. As we have seen, the trajectory of forest legislation has been a thoroughly researched field since the early 1980s. The many subsequent law codes and regulations since the early nationwide forest acts of the nineteenth century until today have been at the centre of many studies. They have focused on legal implementation, socio-economic consequences of law for tribal communities, ecosystem effects, the institutional longterm legacies of the Forest Department, and the exercise of government rule through the many layered hierarchies among the department's officers. Mostly, law has been portrayed as blind and unquestioned. However, in recent years, the academic searchlight has been put on the legal arena rather than on the law code, which has opened up a new set of questions.¹⁶

The negotiability of law comes to the forefront in Naveen Thayyil's (Conservation and Society 7(4): 268-282, 2009) study. The T.N. Godavarman case, serves as a clear example of the changing interpretation of forest legislation after 1996. Until then, the concern for the protection of the forest yield had been framed within regulations on restriction or exclusion. Now, what was meant by 'forest' was redefined and a 'dictionary' definition was chosen. Such laboratory usage of a dictionary, as if containing undisputable facts, would make any student in the social sciences fail the test and produce headaches among the scholars writing texts for dictionaries, knowing what a contested field of interpretation this is. On a more serious note, land control and ownership came into question when the ownership and tenurial rights were unclear. The government of Madhya Pradesh issued a Circular, declaring that land covered by trees and shrubs (using a quantitative measure of an average number of trees per hectare), where agriculture was not performed, was now a forest. Thayyil writes that this had 'seismic implications' for resource-dependent communities around the nation-state. Whatever such reinterpretations of forest legislation recognise, socio-cultural identities and place-based livelihoods are not among them.

Likewise, as in the case of government policy, judicial practice also involves a discrepancy between intention and implementation. There is room for negotiation and the skilful handling of rules for the benefit of a particular interest, while at the same time there are many unintended consequences to handle. For example, an incomplete implementation of a regional agrarian reform scheme, such as the Janmam Abolition Act in Tamil Nadu in the late 1960s, left a space open for conflicts over forest lands. This was a well-intended

agrarian reform scheme according to Siddhartha Krishnan (Conservation and Society 7(4): 283-298, 2009), which aimed at abolishing Janmi (landlord) control of land, giving the tenants and immigrant cultivators titles and acquiring forests leased to coffee and tea planters under the old Janmam estate system. Krishnan contends that legal and ecological anomalies ensued during reforms due to litigation and judicial processes. The earlier vast forests interspersed by tea estates are now converted into an almost entirely cultivated landscape with small townships.

The special issue of Conservation and Society brings together seven contributions which, from different perspectives, discuss the interface of nature, knowledge, law and popular assertion with a special focus on India. As on the global arena, the battle over legal regulation and—once these are in place—their meanings and implementation are also at stake on the national and local scenes. The predicament of nature is differently assessed and much depends on the extent of influence on agendas and decisions, as well as on the perceived and experienced immediate threat to livelihood. A Prime Minister, a tea estate owner in Gudalur, a Forest Department official, or a buffalo herder in the Himalayas will obviously have different priorities and be extremely unequal actors. A broad disciplinary perspective is necessary for assessing such a complex situation. Here, the disciplines of history, anthropology, cultural geography, development economics and law are brought together. The work has grown out of the conference 'Nature, Knowledge, Power' held in Uppsala, Sweden, in August 2008, organised by SASNET (the Swedish South Asian Studies Network), Uppsala University and the Swedish University of Agricultural Sciences (http://www. sasnet.lu.se/uppsalaconf08/).

The two key speakers, Amita Baviskar and Arun Agrawal, pointed to two different and significant trends which they identified in the present research debates. Baviskar argued for moving the field of political ecology beyond economic determinism, which she thinks traps the studies, creating blind spots for cultural politics and practices. She cited the Narmada movement as an example of how movements create narratives, which can be studied as phenomena in themselves, but should not guide research priorities. In the Narmada case, Dalits were also heavily affected by the dam project. However, they were left out of the movement's narrative that worked to explain the situation as the Dalits held no land, argued Baviskar.

On a critical note, challenging the many studies in which people are made to play the subordinate role of being illustrations and cases for making up research models, categories and theoretical points, Agrawal asked: "Do people matter in social theoretical analyses of the environment?" As an alternative for the purpose of making theories more grounded and taking account of the totality of a person's life, he elaborated on four aspects for research. Firstly, it is best to see people as 'agents' in a causal capacity. Second, to see people as 'selves', which targets the reflexive capacity, and a person's capability to think and feel. Third, when people

are seen as 'subjects' the focus is set on the representational capacity and the changes in a person's life; and, finally, people viewed as 'persons' emphasises their socio-political capacity. Thus both Baviskar's and Agrawal's contributions are calls to move beyond the simplifications that often arise from academic habit and research field strongholds—in these cases perhaps more representative of some disciplines than others. This is a call 'not to imagine people as mechanical abstractions', in Agrawal's words. 'Also structures of meaning are at stake in resource conflicts', as expressed by Baviskar.

When ecological analysis compels us also to search globally, it may become farfetched not to imagine people as abstract numbers and to acknowledge the structures of meaning among localised groups of people. Writing at the time of one of the worst drought years of the century in India, with an average monsoon deficit of between 20–30% in the worst hit states (*The* Hindu, 26.9.2009), we are reminded of the strong links between issues such as droughts, manipulated food prices, social and political conflict and climate. Likewise, the global invades the national and local when human made global heating adds to natural phenomena such as El Niño, the most recent occurring in 2006. This year, we are again facing El Niño conditions.¹⁷ Paul Crutzen points out that in the Anthropocene age, when humanity has become a natural force with the capacity to change the climate, global and local ecologies are intimately linked.

Global and imperial claims have worked to change ecosystems before, yet scales and implications leave no one unaffected today. Scholars of climate research no longer speak from the sidelines, but have an impact on agendas of international leaders' summits. 18 The outcome hinges much on how global and national institutions work or do not work—a theme studied in detail for the Indian situation in the following articles. India's very rapid expansion of secondary industries, of factories and ports, highways and large dams not to mention mines and wetland or forest clearance, is bound up with intense social strife, political conflict and a rich intellectual ferment. To reconcile human health, social justice and ecological integrity, with growth, will call for new and effective responses. The clamour of debates in seminars and shop floors, in laboratories and village councils, boardrooms and cabinet meetings is proof of change.

The rich tapestry of issues in South Asia in general and India in particular can fascinate as well as baffle the most seasoned observers. The small gathering from which these articles are drawn, did not attempt to do more than capture a slice of that diversity, political or ecological. However, to the extent the communities of knowledge reflect on the ever changing and contentious present, they do give insights into different regimes and contexts, landscapes and states of nature. Each of these studies is of the specific and particular. In doing so they shed light on larger processes and patterns. Even to comprehend the larger global predicaments, the local and the national remain good starting points. Keeping the connections in mind this section hopes to shed light on the linkages to thinking of ways to a better future.

Notes

- On climate change see Lovelock 2006, and the even more dire Lovelock 2009. On species extinctions, Terborgh 1999.
- 2. The role of science in the campaign for information on nuclear tests is told in Commoner 1971, revised second edition 1972.
- 3. See Lear 1997 for a biography of Rachel Carson, the author of *Silent Spring* (1962) published by Hougton Mifflin Company.
- Paul Crutzen. 2009. Keynote speech at the First World Congress of Environmental History in Copenhagen. 4 August 2009.
- For a provocative view of Asia's rise see the Singapore diplomat and scholar, Mahbubani 2007. The best overview of India since 1947 is Guha 2007a.
- One way to track these views and debates is via the wirings of the deeply influential environmentalist the late, Anil Agarwal; see CSE 2007.
- For other critical discussions, see Sen 2006. For instances of recent informed public interventions, see also Kashwan 2007; Wani 2009; and Dharmadhikari 2009.
- For recent literature on human–nature relations and environmental politics, see Elvin 2006; and Shapiro 2001.
- On biology and conservation, see Gadgil 2001, and the recently published collection mainly on energy and technology, Ravi Rajan 2009. On animal conservation, see Divyabhanusinh 2008. On urban planning see Guha 2007b (http://www.thehindu.com/mag/2007/01/21/ stories/2007012100100300.htm), and on ideas of tribals and modernity see Guha 2001.
- For studies of manifestation of nation and nationalism in nature, see Cederlöf & Sivaramakrishnan 2005. For an anthology with a different perspective see Prasad 2008.
- 11. Fresh insights are provided by the oral field work of Annu Jalais in the Sunderbans, India, in Jalais 2009.
- 12. Upcoming studies provide a critical view of a synoptic understanding of scientific forestry. Hölzl forthcoming 2010. Ravi Rajan 2006. Richard Hölzl's work can be usefully read against the study by Ravi Rajan. See also Singh 1998; Sivaramakrishnan 1999; Vasan 2006. For a synthesis across continents see McNeill *et al.* In press.
- Guha and Gadgil 2001. For a recent reappraisal especially for the inter connections of social fabric, agrarian change and forest cover, see Chaudhuri 2008; Linkenbach 2007; Dangwal 2009.
- For a regional comparison, see Forsyth and Walker 2008; Goodall et al. 2007; Nuttall 1998.
- 15. Nag (2008) is probably the first full length work to place dearth related to natural cycles (the flowering of bamboo) at the centre of a century long social history of a region.
- 16. Studies bringing in legal aspects of environmental and natural resource conflicts have begun to appear also in other fields, in addition to the well researched forest tracts. See, for example, Subramanian 2009; Hoeppe 2007; Baviskar 2007. See also Cederlöf 2008; Guha 1989, Revised edition with fresh introduction 2009; Rangarajan 1996; Saikia 2005.
- 17. Australian Government Bureau of Meteorology (http://www.bom.gov.au/climate/ahead/ENSO-summary.shtml), and United States Department of Commerce, National Oceanic and Atmospheric Administration (http://www.noaanews.noaa.gov/stories2009/20090709 elnino.html).
- The remaking of global ecology via empire is discussed by Beinart and Hughes 2007; Grove 1996; Williams 2003.

REFERENCES

Baviskar, A. (ed.). 2007. Waterscapes: The Cultural Politics of a Natural Resource. Ranikhet: Permanent Black.

Beinart, W. and L. Hughes. 2007. *Environment and empire*. Oxford: Oxford University Press.

 $Cederl\"{o}f, G.\,2008.\, Land scapes\,\, and\,\, the\,\, law:\, Environmental\,Politics,\, Regional\,\, Land scapes\,\, and\,\, the\,\, law:\,\, Land scapes \, and\,\, the\,\, law:\,\, Land s$

226 / Cederlöf and Rangarajan

- Histories, and Contests over Nature. Permanent Black.
- Cederlöf, G. and K. Sivaramakrishnan (eds.). 2005. *Ecological nationalisms: Nature, livelihoods, and identities in South Asia*. New Delhi: Permanent Black; Seattle: University of Washington Press (2006).
- Chaudhuri, B.B. 2008. The history of science and civilisation in India, Volume 8, Part 2. Peasant history of late pre-colonial and colonial India. Delhi: Pearson Longman.
- Commoner, B. 1971. *The closing circle: Nature, Man, and Technology*. Revised second edition, 1972. New York: Random House.
- CSE. 2007. The Anil Agarwal Reader. Volumes 1 to 3. Delhi: Centre for Science and Environment.
- Dangwal, D.D. 2009. Himalayan degradation: Colonial Forestry and Environmental Change in India. New Delhi: Foundation Books/ Cambridge University Press.
- Dharmadhikari, S. 2009. Mountains of concrete: Dam Building in the Himalayas. Delhi: SANDRP.
- Divyabhanusinh (ed.). 2008. The lions of India. Ranikhet: Black Kite.
- Elvin, M. 2006. The retreat of elephants: An environmental history of China. New Haven: Yale University Press.
- Forsyth, T. and A. Walker. 2008. Forest guardians, forest destroyers: The politics of environmental knowledge in Northern Thailand. Seattle: Washington University Press.
- Gadgil, M. 2001. Ecological journeys: The science and politics of conservation in India. Ranikhet: Permanent Black.
- Goodall, H., P. Rosier and S. Washington (eds.). 2007. *Echoes from the poisoned well: Global memories of environmental injustice*. Lanham: Lexington Books.
- Grove, R. 1996. Green imperialism: Colonial expansion, tropical island Edens and the origins of environmentalism, 1600-1860. Cambridge: Cambridge University Press.
- Guha, R. 1989. The unquiet woods: Ecological change and peasant resistance in the Himalaya. Revised edition with fresh introduction 2009. Delhi: Oxford University Press.
- Guha, R. 2001. Savaging the civilized: Verrier Elwin, his tribals and India.

 Delhi: Oxford University Press.
- Guha, R. 2007a. India after Gandhi: The history of the world's largest democracy. Delhi: Picador.
- Guha, R. 2007b. Scottish internationalist. The Sunday Hindu 21 January 2007. http://www.thehindu.com/mag/2007/01/21/stories/2007012100100300. htm
- Guha, R. and M. Gadgil. 2001. The use and abuse of nature: Omnibus of this fissured land and ecology and equity. Oxford University Press.
- Hoeppe, G. 2007. Conversations on the beach: Fishermen's knowledge, metaphor and environmental change in south India. New York: Berghahn Books.
- Hölzl, R. Forthcoming 2010. Forest crimes and the advent of scientific forestry in preindustrial Germany. In: Common ground, converging gazes: Integrating the social and environmental in history (eds. Massard-Guilbaud, G. and S. Mosley). Cambridge: Cambridge Scholars Press.

- Jalais, A. 2009. Forest of Tigers: People, Politics and Environment in the Sundarbans. Delhi: Routledge.
- Kashwan, R. (ed.). 2007. The caterpillar and the mahua flower: Tremors in India's mining fields. Mumbai: Jaico.
- Lear, L. 1997. Rachel Carson: Witness for nature. New York: Henry Holt.
- Linkenbach, A. 2007. Forest futures: Global representations and ground realities in the Himalayas. Permanent Black.
- Lovelock, J. 2006. The revenge of Gaia: Earth's climate crisis and the fate of humanity. London: Basic Books.
- Lovelock, J. 2009. The vanishing face of Gaia: A final warning. London: Allen Lane.
- Mahbubani, K. 2007. The new Asian hemisphere: The irresistible shift of power to the East. New York: Public Affairs.
- McNeill, J. 2000. Something new under the sun: An environmental history of the twentieth-century world. London: Penguin Allen Lane.
- McNeill, J., J.A. Padua and M. Rangarajan (eds.). In press. *Environmental history: As if nature existed*. Delhi: Oxford University Press.
- Nag, S. 2008. Pied pipers in north-east India: Bamboo-flowers, rat-famine and the politics of philanthropy (1881-2007). Delhi: Manohar.
- Nuttall, M. 1998. Protecting the Artic: Indigenous peoples and cultural survival: studies in environmental anthropology. Volume 3. New York: Hardwood Academic Publishers.
- Prasad, A. (ed.). 2008. Environment, development and society in contemporary India: An introduction. Delhi: Macmillan.
- Rangarajan, M. 1996. Fencing the forest: Conservation and ecological change in India's Central Provinces, 1860–1914. Delhi: Oxford University Press.
- Ravi Rajan, S. (ed.). 2009. Amulya Reddy: Citizen scientist. Hyderabad: Orient Black Swan.
- Ravi Rajan, S. 2006. Modernizing nature: Forestry and imperial ecodevelopment 1800-1950. Oxford: Clarendon Press.
- Saikia, A. 2005. Jungles, reserves, wildlife: A history of forests in Assam.

 Guwahati: Wildlife Areas Development and Welfare Trust Assam.
- Sen, A. 2006. The argumentative Indian: Writings on Indian history, culture and identity. Delhi: Penguin.
- Shapiro, J. 2001. Mao's war against nature: Politics and the environment in revolutionary China. Cambridge: Cambridge University Press.
- Singh, C. 1998. Natural premises: Ecology and peasant life in the western Himalaya, 1800–1950. Delhi: Oxford University Press.
- Sivaramakrishnan, K. 1999. Modern forests: Statemaking and environmental change in colonial eastern India. Delhi: Oxford University Press.
- Subramanian, A. 2009. Shorelines: Space and rights in south India. Stanford: Stanford University Press.
- Terborgh, J. 1999. Requiem for nature. Washington, DC: Island Press.
- Vasan, S. 2006. Living with diversity: Forestry institutions in the western Himalaya. Shimla: Indian Institute of Advanced Study.
- Wani, M. 2009. Nought without cause. Pune: Global Forest Coalition.
- Williams, M. 2003. *Deforesting the earth: From prehistory to global crisis*. Chicago: Chicago University Press.