

# COLONIALISM, IMPERIALISM AND ENVIRONMENTAL HISTORY

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## **Summary**

The chapter looks at the environmental history of empire by looking at histories of environmental change in the tropics by pioneering colonial scientists and by contemporary historians who are carving out the domain of colonial environmental history. The chapter argues that the development of an environmental sensibility can be traced to the encounter of seventeenth and eighteenth century Western Europeans especially naturalists, medical officers and administrators with the startlingly unfamiliar environments of the tropics and with the damage done to these environments by them.

## **1. Introduction**

What is environmental history and why should we study it? Environmental History has been described variously as the interdisciplinary study of the relations of culture, technology and nature through time by historians such as Donald Worster and as the historically documented part of the story of the life and death, not of human individuals but of societies and species, in terms of their relationship with the world around them by Richard Grove and Mark Elvin. Clearly some environmental historians argue from a materialist/structuralist perspective while others argue from a much more cultural perspective. There is some disagreement about whether the natural world constitutes any kind of order or pattern that we can know and, if it does, whether that order can be apprehended by means of science or not. There is also debate on what is natural and what is not, whether indigenous people managed the whole environment or only some part of it, how much was wilderness and how much was mythical. There are divergent opinions over the extent to which nature influences human affairs, some taking the position of limited environmental determinism, others insisting that culture determines all. Worster believes in straddling both worlds by asserting that the cultural history of nature is as significant as the ecological history of culture. In considering how the field

has developed historians have given a prime role to the workings of nature independent of human actions while at the same time continuing to place more of an emphasis on human interactions with the rural and non-arable environment. As Caroline Ford had argued many of the recent studies in environmental history stress the blurred aspect of the nature-culture divide. This chapter attempts to explore the various themes within colonial environmental history by examining the work of some of its practitioners.

## 2. Themes and Contexts in Colonial Environmental History

Environmental history, then, seeks to address the lacunae of the absence of nature in the study of history by developing new perspectives on the historian's enterprise. In histories of empire, for example, this absence is particularly marked considering the fact, as Richard Grove argues, that the development of an environmental sensibility can be traced to the encounter of seventeenth and eighteenth century western Europeans, especially naturalists, medical officers and administrators with the startlingly unfamiliar environments of the tropics and with the damage done to these environments by them. Thus in Grove's work this unnatural history of the empire has been revised and the growing domain of environmental history has taken root in studies of empire. Both Grove and Worster argue strongly for the need to think globally about environmental history. Donald Worster notes that one needs *'to take an all inclusive view to study the planet as a single integrated system that has been radically reorganised by a single, integrated economy, technology and culture...a point in history when people on every continent began to experience the same reality...and to satisfy their personal needs by drawing from the most remote parts of the earth.'* He notes that it is not easy to put precise dates on that era, which is still incomplete, but we should acknowledge as foundational the discovery of the western hemisphere, the invention of new communication and transportation technologies, and the appearance of worldwide markets. At its core, global environmental history must deal with capitalism as the pioneering, and still the most important, architect of that new integrated world economy.

As a discipline, Environmental history seems to have arisen in Europe and America in part as an offshoot of the post war wave of environmentalism which first made itself felt in the 1960s in Europe and America. Rachel Carson's *The Sea around us* (1952) and *Silent Spring* (1962) were a clarion call not just for new environmentalism but for environmental history. In 1967, there appeared another volume of quite extraordinary breadth and depth, Clarence Glacken's, *Traces on the Rhodian shore*. This book really marks a transition between historical geography and environmental history, although in some respects it is a unique study in the history of environmental and cultural change. The 1970s saw the growing strength of environmental history in the US with publications of books by authors such as Roderick Nash and Donald Worster. By the 1980s and 90s other books followed notably by Richard Grove, Carolyn Merchant, William Cronon, Donald Hughes and John McNeill. Most of the reviews of environmental history argue that the discipline was most firmly rooted in the US and had only a limited following elsewhere including in Europe. However Grove's pioneering work has attempted to shift the discussion away from the American debates seeking instead to uncover the historiography of environmental history which he believed developed in the colonial tropics in the context of the Dutch, French and English maritime empires. The author discusses here specifically about Worster's and

Grove's studies, which is a useful background to world environmental history and self-consciously has carved out the field of environmental history and global environmental history. As Worster has recently noted, '*To think globally about environmental history means transcending national boundaries or local concerns that today bind all peoples and all eco-systems together and to understand how that happened and what the consequences have been*'.

Worster's early work *Nature's economy* traced the history of ecological ideas from Gilbert White, who wrote the *Natural history of Selbourne* in 1789 to Linnaeus whose essay '*The Oeconomy of Nature*' in 1749 became the single most important summary of the world ecological point of view still in its infancy. Man and his ambitions in the natural economy are an integral part of the Linnaean model, and occupy a special place of dignity and honor.

*All these treasures of nature, so artfully contrived, so wonderfully propagated, so providentially supported through her three kingdoms, seem intended by the creator for the sake of man. Everything may be made subservient to his use; if not immediately, yet mediately, not so to that of other animals. By the help of reason man tames the fiercest animals, pursues and catches the swiftest, nay he is able to reach even those, which lye hidden in the bottom of the sea.*

Worster then moves on to look at Thoreau and Charles Darwin. For Darwin the discovery of the Galapagos introduced a counter-narrative to the Arcadian vision of Gilbert White and Thoreau. In the Argentine pampas, especially along the La Plata river, the arrival of a European population with its domestic stock had worked disaster on the aboriginal order of nature. '*The countless herds of horses, cattle and sheep, not only have altered the whole aspect of the vegetation, but they have banished the guanaco, deer and ostrich*', he wrote. Darwin had enough evidence to believe that the present order of animals was by no means the first to live on this land, and that death was as possible for a whole ecological system as it was for any of its members. Such a realization made its contribution to Darwin's awareness of the potent forces arrayed against the living. Extinction and conflict were far from the qualities of arcadia. Wherever he turned he saw the '*universal signs of violence*' Among Darwin's chief guides were Lyell's *Principles of Geology* published 1830 and Alexander Von Humboldt's *Personal Narrative* of 1807, a pioneering work, one might argue, in ecological biology. This is all very informative and interesting. However what Worster fails to point out is that perhaps most important among the sixteen major books which Darwin carried with him on the Beagle was that by Alexander Beatson, an Indian army engineer who published *Tracts relative to the Island of St Helena* in 1816. This book included a listing by William Roxburgh of the endemic plants of St Helena Island and comments on their rates of extinction. This became vital in the construction of Darwin's theory of natural selection.

So too, Worster in attempting to examine the origins of ecology, looks exclusively at the Anglo-American world, neglecting the development of understandings about man and nature in the tropical world. To understand this we have to look at the work of Richard Grove in the 1980s and 1990s and to his pioneering work in locating the emergence of a unique environmental awareness, not in the metropolitan centre but in the colonial periphery from a very early period. Much of this awareness was based on

the development of climatic anxieties. Indeed world environmental history is today increasingly concerned with the historical impact of global climatic anomalies, a major theme in Grove's work, which the author now wants to discuss.

In *Green Imperialism*, Grove argues that the emergence of a truly global environmental awareness was a very specific historical development. It depended on new empirical knowledge of the scale of the world and actual observations of human ability to change the natural environment on a global basis. Global environmental awareness was thus directly connected to a new capacity for people to travel large distances, transform the earth, and acquire knowledge about the environment. Two elements were necessary for this awareness to emerge: first, the institution of capital and shareholder-rich maritime trading companies backed by state legislation and assistance; and second, the settlement of previously uninhabited islands and continental peninsulas in the tropics and subtropics by colonial settlers and planters. The profit motives and mechanisms of these trading companies, especially of the East India Companies of Portugal, the Netherlands, Britain, and France, resulted in intensive cash-crop plantation activities on oceanic islands and the clearing of forests for agriculture, fuel wood and ship construction.

This process had already begun with Portuguese and Spanish settlement and plantation agriculture on the Azores, Canaries, and Madeira Islands during the 14th century, but the sheer scale of its impact was massively expanded as the European trading companies developed their routes to India, the East Indies, and the Caribbean. As early as the 1670s, the catastrophic consequences of their capital- and labor-intensive activities became clear as the early island colonies experienced drought due to the drying up of perennial streams, soil erosion, dust storms, and the disappearance of animal and plant species. These developments all made practical survival on oceanic islands difficult and encouraged wider questions about the sustainability of a confined settlement. Islands soon became symbolic of the explored world and encouraged ideas about limited resources and the need for conservation or sustainability.

*The idea of regional environmental degradation or control was not new; indeed the word "conservancy" was first adopted in Britain in the 14th century with relation to the control of whole river basins, such as that of the Thames river. Similarly, in the Venetian Republic, well-developed ideas existed about the control of deforestation in the hills in order to control erosion and silting downstream. These initiatives may have been early signs of responses by new, highly sophisticated maritime states to the first consequences of early merchant capitalism and trade that had a global reach. Indeed, even before the advent of large continental-based European empires in Asia, Africa, and the Americas, the scale of artificially caused environmental change was already being transformed as European maritime countries started to exploit new kinds of natural resources on a global scale. Sugar and other crops essential to the new urban markets of Europe were cultivated on small islands, especially in the West Indies, Indian Ocean, and East Indies. After about 1400, fisheries extended to an oceanic scale as seals and whales were hunted from pole to pole*

The extension of what Immanuel Wallerstein has called the capitalist "world system" on a global scale between 1200 and 1788 had a critically important dimension in terms of resource exploitation. European merchants and companies found that they could exploit the trade goods, markets, and resources of almost every land, in what became an

expanding commodity frontier, the “unending frontier” in the title of John Richards important book on the environmental history of the early modern world”. However, capitalist accumulation and trade developed quite autonomously in South and East Asia, something Wallerstein was really unable to incorporate in his global theory. But in the centers of indigenous capital too, major transformations of the natural landscape took place. Some, like the deforestation of the Ganga basin, had already been long in progress, but they were quickly accelerated after 1400 as powerful mercantile empires developed. However, it was in the tropics that the destructive environmental impact of globalization made its most obvious impact to the observer.

One of the first symptoms of the early phases of globalization was the marginalization, enslavement, and then extinction of small indigenous cultures, especially those of island peoples; the indigenes of the Canary Islands are a classic example. However, it was on uninhabited islands such as St. Helena and Mauritius that the full effects of highly capitalized plantations, forest clearance, and import of alien animals (especially pigs, goats, and rats) were first observed. The extinction of the dodo made a great impression on contemporary naturalists. The fact that oceanic islands were perceived as highly desirable “Edenic” locations in long-running European cultural traditions served to emphasize the shock of their manifest and rapid degradation. Moreover, their degradation threatened their role as watering and supply stations for company ships. In these circumstances, the colonial governments of many small islands became environmentalist, if only to ensure their own survival and that of their agricultural settlers and slaves.

It is possible to argue that early environmental inquiry seems to have been driven by neo-Malthusian concerns about the possible demise of civilization as a result of the “limits to growth.” A parallel concern is the discussion of the historical collapse of previous societies linked to apparent resource exhaustion and the failure of institutions to adapt to looming crises in time to prevent disaster. The classic discussion is the debate about Easter Island and the fate of its population doomed by deforestation and over fishing. Neo-Malthusian ghosts haunt the discussion of resource shortages and the failure of adaptation on the part of many societies for example in the recent work of Jared Diamond, *Collapse*. But it is worth noting that the theme of collapse also haunts European history, Environmental matters have been more fundamental to imperial politics than is usually understood. In Richard Grove’s terms, colonial ecological interventions, especially in deforestation and subsequently in forest conservation, irrigation and soil ‘protection,’ exercised a far more profound influence over most people than the more conspicuous and dramatic aspects of colonial rule that have traditionally preoccupied historians. Over the period 1670 to 1950, very approximately, a pattern of ecological power relations emerged in which the expanding European states acquired a global reach over natural resources in terms of consumption and then too, in terms of political and ecological control. The reasons for this are not very complicated, but they need restating more frequently than has been the practice in most discussions of environment.

The argument presented by Grove about the expanding resource frontier of Europe has also been replicated by other environmental historians notably by Alfred Crosby in *Ecological Imperialism* where he argues that the process of imperial expansion, whether in terms of direct conquest in what Crosby calls the neo-Europes, or indirect disruptions

as a consequences of trading patterns and military actions, fundamentally changed many ecological processes. The introduction of horses to the Americas, rabbits to Australia, or even the humble potato from the Americas to Europe, changed the environments of these places. This is not the first time such changes had altered the planet's ecology; the emergence of agriculture and the domestication of animals has meant that the Holocene, the geological period since the last glacial episode, has been one of anthropogenic changes in most places, but the accelerating speed and scale of change since the 15<sup>th</sup> Century is what is most important. The ecological dimension of such imperialism is what needs much more attention than it has received until relatively recently. However, Crosby focuses exclusively on the white settler colonies and omits any discussion of the much extensive regions of the colonial tropics. In Grove's terms, the focus on the political and the administrative dimensions of empire have occluded the practical material impacts of colonization on people's lives and on land, animals, fish, forests and other facets of their ecological contexts. The environment has, in these terms, simply been taken for granted until recently when the ecological dimension of human history, minus the distractions of environmental determinism, is once again being worked into the picture.

Grove argues for example, that the Caribbean and its littoral, along with Bermuda, has been a very important area for working out the processes going on in world environmental history in the context of European economic expansion and globalization. Some of the first comprehensive forest-protection legislations on such colonies were introduced after 1620 in Bermuda and a little later in the Caribbean Leeward Islands. In Montserrat, the mountain forests of the island were protected from felling after 1702 by a rigid ordinance, with the knowledge that unrestricted logging caused soil erosion and flooding on lower grounds and in towns. The Caribbean islands, with their large settler and slave populations, came under sustained ecological pressure at an early date and, as on Mauritius and St. Helena, awareness quickly grew of the physical changes and extinctions brought about by commercial clearance. As early as 1616, measures had been taken to protect indigenous edible sea birds in Bermuda. By the mid-18th century, over fishing and major reductions in catches were taking place around many now densely populated islands. Other legislation followed making conservation an integral part of colonial landscape control. Before the 1760s, the effects of colonial economic globalization were addressed on a piecemeal basis in order to protect local food, fuel, timber supplies, and what were already recognized as rare island species. However, in the mid-1760s, responses to deforestation in particular suddenly changed. This was due to the rapid spread of a theory first enunciated in France by Pierre Poivre that linked deforestation to rainfall and regional climate change. In the ensuing century, forest-reserve legislation responding to fears of deforestation-induced climate change slowly began to spread around the world, especially throughout the French, British, and Dutch empires. By the late 1830s and the 1840s, the reiteration of climatic environmentalism by Alexander von Humboldt and Jean-Baptiste Boussingault was being acted upon by environmentally minded scientists and officials working not just on the islands but on the large land masses of India, Southeast Asia, Southern Africa, and Australia, where the demands of European colonial empires were now bringing about deforestation at an unprecedented speed. It is to these specifics that we will now turn. The context is the growing discussion of the environment by scientists, travelers and administrators in the context of empire in the nineteenth century,

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