ENVIRONMENTAL HISTORY OF AFRICA

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Contents

Summary

African environments have been studied across many disciplines in the natural sciences, social sciences and humanities. This chapter draws on economic and environmental history approaches in exploring the consumption-conservation nexus of African natural resources. It explores environmental changes resulting from a range of interactive factors, including climate, population, disease, vegetation and technology. Ecological issues are important in the synopsis but this work does not develop a detailed record of Africa's environmental changes. Instead, the study explores the role and impact of the state, both exploitative and conservationist, from pre-colonial times to the present. The relationship between economic development, nature and conservation is central, given that the main axiom of world conservation strategy is that development depends upon conservation, and lasting development is impossible without conservation.

1. Introduction

The major contribution of Africans to global history has not been to inhabit, and make usable a difficult environment – but rather to involuntarily supply hugely significant resources in slaves, minerals, farm and forest produce to the world capitalist system. A key feature of African environmental historiography lies in its emphasis on colonial capitalism and imperialism as environmental contexts and processes. African environmental history has been dominated by analyses of the colonial experience and its legacies. The colonial state has also been characteristically prominent in these works.

Studies of the environmental consequences of colonial and imperial encounters have largely fuelled the rapid growth of African environmental historiography but there are exceptions to this rule in some of the themes and questions emphasized in the literature. The ecological implications of the colonizing process have been looked at within intellectual, institutional, and ecological themes as acclimatization, plant and animal exchange, the role of colonial science on the periphery, and the various networks that linked colonial encounters in Africa to other colonial sites.

African environmental historiography is rich in object lessons about the dangers of preservationist and desiccation rhetoric, and the tendency of outside technocratic authorities and representatives to misrepresent Africans and their landscapes. The focus on instrumental discourses of erosion and deforestation generates difficulties involving making normative judgments about environmental change. Western observations and notions about environmental degradation have been subjected to close ecological and cultural analyses in some of the literature. African environmental history also offers innovative models for thinking about disease and public health as imperial, environmental and local problems. Tying together many of these themes is what defines African environmental historiography because the history of human land management on the continent is deep, complex, and non-linear. Degradation narratives must be treated with great skepticism as they often have served colonial and post-colonial critiques of traditional African land use practices. The relative lack of traditional historical sources notably written documents has meant that African environmental historians often have relied on scientific, archaeological, and linguistic methods to reconstruct the continent's pre-colonial environmental history. In reconstructing the environmental history of past land use, African environmental historians ought to employ a deeper time frame in spite of the methodological limitations. It is time to pay more attention to the pre-colonial environmental history of Africa rather than to render it as just a prelude.

Regardless of the overarching focus on the intrusive colonial and capitalist systems in African environmental history, forces that also imparted foreign conservationist ideas and practices, there are regional differences, strengths and weaknesses in African environmental scholarship. West African literatures are at the forefront in investigations of indigenous knowledge and practices, and in historicizing strategies for mitigating drought and famine since the region was least affected by settler colonialism. East African environmental historians have been preoccupied with demography and disease histories, especially given the strong evidence of population decline in the late nineteenth and early twentieth centuries. *Trypanosomiasis* or sleeping sickness played a particularly important historical role in east and central Africa. North African environmental historians pay attention to the role and impact of trade, urbanization and land disputes in the light of desert conditions and land shortage. North Africa has the longest history of imperial rule stretching to Roman times. Southern African scholars have lagged behind on these themes but are strong on the invasive reorganization by settlers of African land use and wildlife conservation. Great attention has been given to the environmental policies pursued by southern African colonial and settler states. A common thread and shared emphasis in African environmental historiography is African resistance to a wide range of unpopular outside environmental interventions, whether by the state or other actors. Also there have been more continuities than changes in the key issues examined by African environmental historians over the last half of the 20th century. A political

economy approach dominates the writings emphasizing Africa's long-term exploitation and marginalization in the global sphere.

2. Defining the African Environment

Africa's terrain – lands, deserts, hills, mountains, rivers, lakes and coasts – have endured several millennia of modification. The forest mosaic, soils, vegetation and population settlements also encountered diverse transformations from time immemorial. Indigenous and exotic species, and new knowledge have contributed to the biodiversity in plants, animals and viruses on the continent. New crops like maize, cassava and cocoa have adapted to semi-arid savannah woodland, rainforests, coastal swamps and highland plateau. Africa's climate consisting of wet summers and dry winters dramatically changes life, vegetation and access to water on the continent.

The animal kingdom in Africa comprises both diminutive and huge mammals. Fauna includes domesticated and wild, herbivorous and carnivorous species. Herbivores are in the majority and are sustained by vegetation; grasses, bush and trees, while carnivores – feline, canine, and avian – subsist on the herbivores. Omnivorous species live on different types of food including both plants and animals. The African environment is also home to a range of benign and malignant disease agents, and some of the latter – protozoans, viruses, nematodes – cause epidemic and endemic illnesses to both humans and animals. Insects – lice, mosquitoes, locusts, tsetse fly, black, green flies and ticks are hosts or vectors of disease agents and make seasonal migrations following moist, vegetation and temperature influencing other fauna and flora in different ways. However, humans are probably the key determining factor in African environmental history. Human actions, beliefs, notions, labor and tools have played a critical role in changing African environments. Axes, sickles, hand hoes, spears, ox-drawn ploughs and human agents like fire, domestic livestock and crops have effected varying but far reaching changes across Africa. Technology has enhanced human capability to transform local environments driven by global commodity markets especially for minerals, food and cash crops. Central to environmental change in Africa are multi-layered interactions involving the physical world, flora, fauna and human activity. These interactions also encompass tradition, beliefs, ideas, perceptions and prescriptions regarding habitats and inhabitants. Environmental history studies interactions between the social and natural systems, natural history examines lives of species and ecological history concerns itself with ecosystems. Indeed, the African environment comprises both tangible and intangible, human and non-human activity, and the resulting phenomenon.

3. Methodology

Environmental history has a long tradition of using interdisciplinary approaches and has built on connections and interactions between history, geography, archaeology and the natural sciences. Environmental historians have also begun to engage with concepts and approaches developed in cultural and literary studies. In the past, environmental history drew heavily on archival research, oral history and detailed field investigations of environmental practices and their outcomes. Other studies draw on such sources combining them with methods that explore African beliefs, concepts, myths, legends and literary narratives, landscape perceptions, colonial and wildlife photography. The use of

diverse source material has been accompanied by detailed social and cultural perspectives on environmental control and change. One set of approaches to environmental history concerns itself with physical processes of environmental change, making evaluations on whether or not environmental change has taken place and whether such transformation was beneficial or detrimental. Some evaluate change in terms of human social welfare; others do so by measurements and valuations of biodiversity, vegetation cover and soil erosion. Yet others are wary of such judgments and discuss historical debates about degradation as contradictory narratives reflecting different perspectives. However, the multi – historical sources are invariably culturally and politically embedded. Also, environmental historians of Africa show that vegetation; rocks, disease and climate have dynamics of their own and are not only important background for social history but form an intrinsic part of it.

4. African Management of Natural Resources

Environmental historians of Africa no longer see Africans as an inferior and unscientific race. Discredited environmental determinist views of the previous era interpreted Africans as incorrigible creatures of nature, exhibiting tropically induced indolence or subject to primitive impulses born of a non-technological society. African agency is now accorded its due importance in the new environmental history showing Africans as doers, masters and shapers of environments rather than as their passive captives in need of external redemption. For instance, some Africans developed and adopted new and ever changing strategies to cope with disease environments and frequent drought and famine conditions. Indeed, cyclical droughts and famine in Africa contributed to the growing body of historical environmental work reflecting on climatic and ecological change and coping mechanisms and adaptations to region specific environmental stress and catastrophe. However, analyses produced in the 1970s and early 1980s on the theme of African environmental control were criticized from various viewpoints, notably a tendency to over-romanticize the pre-colonial African past or an anti-science bias. Nonetheless, studies by Vansina and Schoenbrun show the long history of environmental control by African communities as essentially benign rather than generally degrading. (Vansina 1990, Schoenbrun 1998) Although advocates of indigenous knowledge and African environmental management highlight its depth and importance in Africa, their work does not suggest the absence of degradation, stagnant tradition or marked dichotomies between scientific and local forms of knowledge.

Developing earlier works on indigenous knowledge, Fairhead and Leach have linked traditional management practices to nuanced understanding of landscapes and narratives of environmental transformation (Fairhead and Leach 1996). They have shown that farmers of the forest and savannah zones of Guinea's Kissidougou Region in West Africa transformed their landscape by creating 'islands' of forest vegetation around human settlements – areas that would otherwise have had little forest cover. Previous interpretations by foreign forest scientists had cast these forests as surviving remnants from deforestation and under threat from African farmers and pastoralists. Such conclusions were used to justify state intervention and control. However, rigorous historical research combined with detailed field investigation allowed Fairhead and Leach to deconstruct these colonial narratives and convey a different environmental history that also lent support to advocates of localized environmental management. This

misunderstanding, as historiography attests, was rife in modern Africa, and frequently used to justify state intervention. African environmental historians appear to be keen to find such misinterpretations and thus to paint conservation interventions as both imperial and ecologically misinformed.

McCann notes that African landscapes are anthropogenic. This theory summarizes the historiography in general and underlies the misreading school in the literature on Africa in particular. (McCann 1999) African environmental historians have thoroughly problematized the notion that normative natural landscapes exist – landscapes shaped almost solely by natural processes against which transformation triggered by human activity can be qualitatively and quantitatively measured and assessed. According to Maddox, African environmental history undermines the before and after distinction common to environmental history by demonstrating the ways in which human societies and the natural world have reciprocally constructed each other. (Maddox 1999) In contrast, the North American environmental model discusses nature as a distinct and separable category – an entity that can be transformed in ways good and bad, and that can shape the human experience. Steinberg argues that nature's agency is a fundamental premise of U.S. environmental historiography and its strongest claim in U.S. historiography more broadly. (Steinberg 2002) In African environmental historiography, however, nature often ceases to be an independent variable (with climate as perhaps the major exception), making it difficult to distinguish nature from culture in ways that are analytically or normatively useful. African environmental history is thus a complex story of conjuncture, adaptation, cultural and environmental flux. Rather than thinking in terms of a gulf between wild and humanized landscapes, with wild nature as the baseline against which to measure human induced change, the environmental control model offers a spectrum running from the feral to the controlled and the exploited, with environmental control as a normative middle ground. In this model, equilibrium is as much a cultural as it is a natural one.

In the literature on *trypanosomiasis* or sleeping sickness, studies have shown that the ecology of the disease has long dictated that Africans living in the zone of its vector, the tsetse fly, must control vegetation and maintain a separation between livestock and wildlife. Climate and climate change have been a much more prominent part of African and for that matter European environmental historiography than of the U.S. literature. More importantly, human environmental control has to a fair extent worked to keep the tsetse and its preferred habitat, the bush, at bay. When forces disrupted that control – colonial policies and practices most notably – and the landscape reverted to jungle, the disease wreaked havoc on human and livestock populations. The history of *trypanosomiasis* control in Africa provides a poignant and concrete example of how the protection, and in some cases the expansion of wild nature at the expense of human control can have dramatic impact on human populations and economies. The model of environmental control challenges the assumptions of wilderness as a preservationist ideal romanticizing the notion of pristine nature in which human activity is almost by definition destructive, but also a reverence for untrammeled nature, unyoked and free to determine its own course echoing political traditions of natural self-determination. (Sutter 2011) Preservation itself is a model of environmental control in which natural forces can be destabilizing and human interventions restorative. The history of national parks and wilderness areas shows that human intervention is involved in keeping these

landscapes wild and for that matter much of what Africans read as wild has been the product of human management with far deeper roots. For several centuries African environmental management had been enhanced by the sacred grove tradition in which communities were forbidden or excluded from cutting vegetation – a prototype of modern national parks. Some African communities believed certain natural forests were inhabited by ancestral spirits and were therefore sacrosanct.

Work by Kwashirai introduces the relative sustainability model of African environmental control in southern Africa. (Kwashirai 2007) The work shows how Africans as consumers and conservators perceived nature analogically as a granary, pharmacy, butchery, sources of energy and construction material. Infinite numbers and rich varieties of habitats, flora and fauna species characterized the African environment, itself the product of the geological history that created its microclimates and topography. The landscape was an enduring source of a very wide range of important multi-products. In all of Africa including the Sahara, Namib and other desert environments, food provision headed the list of benefits derived from nature. From time immemorial the environment was of tremendous value to African communities but also a source of many threats. Natural forests afforded wild edible grains, fruits, water and also meat by virtue of being a wildlife habitat. Africans fetched firewood, building poles for huts, kraals, crop cribs, and fences and wood for carving as well as medicine. About ten thousand years ago people weaned themselves from more direct dependence on nature by securing more reliable and readily expandable sources of food through domesticating and breeding crops and animals. Nonetheless, nature's resources have continued to play a prime role in providing not only a base for development but also in providing food and other requirements. With modernization, peoples' dependence and reliance upon these resources has continued to increase. In fact, the diverse extraction activities from nature produced balanced and organic diets and incomes for Africans.

Considerable work has been done on the role of state local institutions and communities in the management of Africa's natural resources. Such research focuses on the part played by tenure rules in resource use and conservation, generating controversy which has divided supporters of indigenous tenure systems and advocates of private property and radically new forms of resource management. In the African context, the dominant conservation theme has been that of protecting habitat and wildlife species, though this is now giving way to a broader debate linking conservation to the process of rural development and the survival of agrarian societies on the continent. African interest in actively conserving wildlife and wilderness has a long tradition. Europeans cast doubt on the efficacy of indigenous conservation practices and characterized African mechanisms of managing critical resources as accidental, arguing that conservation was not the primary goal.

However, with varying degrees of success and failure Africans evolved conservation measures prompted by their environmental experience, economic needs and religious beliefs. The African political and religious elite played a significant and leading role in making and enforcing environmental regulations regarding consumption and conservation. Indigenous knowledge, spirit guardians and holy shrines have yet to be fully appreciated as a means through which ritually controlled ecosystems functioned. The ownership, allocation and control of land, forests and water resources all fell within

the spiritual realm. Several forest phenomena; trees, rocks, mountains, pools, mermaids, snakes and large trees were made holy and conserved by cultural and spiritual design. (Kwashirai 2010) Many valuable trees were especially protected due to their food, timber, medicinal and other value and linkages with rainfall patterns and worship. The linkage explains why people never removed large and fruit trees from fields, a concept which was criticized and banned by colonial agricultural extension workers.

The conservation of wild fauna was steeped in community-based rules, beliefs and taboos. The cultural practice of totems promoted game conservation. Ethnic groups, clans or kinships adopted an animal or bird as its totem. The totem acted as a 'tag' a form of identity binding groups together in one large related family. The adopted species was neither harmed nor eaten by members of the group who believed in its medicinal value. Common totem species included; elephant, eland, buffalo, fish, and zebra. Totem beliefs also resulted from the intense admiration of wild game by Africans generally. Superstition also played a role in forest and game preservation. The hyena, owl and snakes were feared and viewed as agents of witches and sorcerers. Some revered lions acted as vehicles for spirits. Certain customary hunting laws were generally observed by hunting parties. As with forests, it was against custom to use fire to regenerate pastures, drive game or hunt during certain periods like the breeding season when animals raised their offspring. This does not imply that these rules were not infringed upon.

Resources were managed on a common property basis, either community or ethnically based. Land was generally communally owned by all people but vested in the king or chief who held it in trust of the people. Rulers oversaw the distribution and allocation of land to individuals for homesteads and plots. Pastures were also generally communally owned and used equally by all under a common property regime. Individual families retained usufruct rights on allocated land provided they did not display political disloyalty, migrate, commit a legal offence or violate conservation laws. Likewise, all trees, wildlife and water belonged to the whole community. Forests were viewed as wilderness, where all had equal access to collect the multiple forest products on which indigenous material culture was based. Core settlement areas and urban areas with denser populations made common property management vulnerable to deforestation and erosion. The resource shortages associated with high population densities created competition and tensions that local institutions and mechanisms often failed to resolve and could lead to a breakdown in local resource management. Peasants generally observed cultural values, fears and superstitions that deterred them from breaching laws pertaining to environmental control. The system of environmental management operated on clear taboos bearing strong conservation value. However, investing a lot of power in the hands of chiefly ruling elites meant that the sharing of available resources was not always egalitarian. Accumulation was possible, but generally few people were excluded from resources. Although the sources for the study of traditional management systems are necessarily incomplete, it is clear that some indigenous institutions and practices were retained and maintained through colonial and independence eras.

African environmental control raises questions about long-term changes and the more distant past illustrating how new plants or new resources could be mastered. Studies in the East African literature pay detailed attention to regional environmental characteristics in different areas and subtle changes of techniques. Broader ecological continuities as

well as long-term environmental changes and pre-colonial regional patterns of land use are less well understood in Africa – a consequence partly of patchy data sets, the impact of colonialism on natural environments and subsequent historiography. Important debates have focused however, on environmental factors in the rise and fall of pre-colonial African kingdoms, notably in southern and western Africa. Conflict resulting from scarcity rather than scarcity itself has been offered as one explanation of social and political upheaval and change. Consensus in some studies appears to attribute the decline of Great Zimbabwe in the fifteenth century to environmental factors such as overgrazing, deforestation and drought.

But political demise might have been the result of famine induced by war. Drought is widely invoked in southern and eastern African history, often in passing, as a self-evident explanatory tool of analysis; it is held partly responsible for the decline of African peasantries; for labor migration and proletarianization; for the rise of poor whites and for particular rebellions. (Beinart and McGregor 2003) However, drought is a frequent and recurring phenomenon in parts of Africa and its impact, as some analyses of famine suggest, depends greatly upon changing forms of production, storage and distribution. The same reservations ought to exist on debates about environmental scarcity. Environmental scarcity, such as water, pasture or arable land shortage, or general degradation is frequently offered as an explanation for conflict. Undoubtedly, environmental factors are of crucial importance in explaining long-term social change.

African thought and metaphors express environmental management and loss but without ignoring history, migration and exchange processes, peoples' own adoptions, interventions and the rationality of their innovations. (Luig and van Oppen 1995) However, African environmental concepts have perhaps been most sensitively discussed not through deploying the notion of landscape, but through studies of resource exploitation and traditional religious environmental controls. Such practices are also filled with cultural meaning. For instance, wilderness was conceived as ambiguous – on the one hand, it was a source of constant danger – on the other hand, synonymous with prosperity and fertility. The environmental historiography of Africa generally links religion and environmental control and historical changes in African religious ideas, practices and institutions.

Environmental issues, religious symbolism and local eco-religious centers neither gained prominence in the colonial period nor did they originate from agro-ecological stresses from colonial resistance. In fact, they had always been part and parcel of a dynamic African culture and environmental management practice. Both men and women played complimentary roles in religious ritual, myth and narrative associated with the control of nature and cultural festivals.

Hunter gatherer societies such as the San and pastoral communities like the Masaai have to be re-conceptualized in less gender-specific ways. Africans also conceived of their environments in the context of aesthetic values. The Matopo Hills in Zimbabwe have always been a central symbol for African admiration, religion, identity and nationalism, the last of which was also expropriated by colonizers. Similar appropriation occurred in South Africa with the Kruger National Park being portrayed as central to white South African identity and unity as well as Afrikaner nationalism.

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Biographical Sketch

V. C. Kwashirai received a coveted university book prize for the BA (Hons.) degree in Economic History in 1990 and a Master of Arts degree with merit in 1996 in the same discipline, both from the University of Zimbabwe. He already had achieved a Diploma in Education in 1984 from Hillside Teachers' College affiliated to the University of Zimbabwe. Kwashirai was awarded two international scholarships for excellence; the Llyod and Department for International Development Scholarships from which he achieved a Master of Philosophy degree in Economic and Social Studies at Linacre College in the Oxford University in 1999. He was awarded an Oxford Overseas Bursary and the Canons Collins Educational Trust Scholarship to achieve a prime Doctor of Philosophy degree in Development Studies at Oxford University in 2002. Kwashirai is a leading expert in African environments and poverty and his work has attracted and received prestigious research awards from international organizations such as the Leverhulme and Alexander von Humboldt Foundation in 2004 and 2010, respectively. He has published widely in his areas of specialty; environment and poverty. He is the first scholar to publish literature relating to African environment and poverty in three books; *Green Colonialism in Zimbabwe: 1890-1980, Conservationism in Zimbabwe: 1850-1950 and Zimbabwe: Poverty, Poverty and Poverty.* He has also published in reputable peer reviewed international journals worldwide. Apart from his academic work, he has also taught at several universities in Zimbabwe, the United Kingdom and Germany. He is the first scholar from Africa to participate together with three other renowned experts in the Platinum Lectures held annually in Oxford by Stephen Forest Associates. His interests also include human rights campaigns and programs for the eradication of poverty in the world.