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Melissa Leach, Robin Mearns, eds. *The Lie of the Land: Challenging Received Wisdom on the African Environment.* Portsmouth, N.H.: Heinemann, 1996. xvi + 240 pp. (paper), ISBN 978-0-85255-409-8; $80.00 (cloth), ISBN 978-0-435-07407-4.

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Rethinking Environmental Degradation in Africa

The Lie of the Land is an excellently titled book. Its eleven essays probe science and policy based on unfounded narratives of environmental degradation–a "lie of the land" in a new sense. Alarmist accounts of environmental change are a tendency in some environmental thinking.[1] In colonial Africa, fears of environmental decline grew up among the scientists and policy makers who had the authority to act against "irrational" and "wasteful" African land use. In independent Africa fears of crisis and interventionist policies continued, sustained by governments, scientists and international aid agencies. This volume, edited by Melissa Leach and Robin Mearns, shows how such fears could be poorly grounded.

These essays consider the explication of environmental degradation as "received wisdom," an "orthodoxy," a "narrative" or the "mainstream." References to Thomas Kuhn appear in several chapters, and the book intends to promote an alternative paradigm in African environmental studies. The conclusions are convincing (and may be surprising to some) and so this book is highly recommended reading for those concerned with colonial science, African environmental history and development policy.

Social and natural scientists have questioned degradationist narratives before now.[2] There are two themes in such thinking, that environmental change is not necessarily degradation, and that African farmers and herders are not the wastrels of stereotype; rather they intervene in environmental processes to benefit their production.

This book brings together case studies which reinforce these points, but its more original contribution is to problematize the "received wisdom" of environmental crisis in Africa. The first chapter, "Environmental Change and Policy: Challenging Received Wisdom in Africa" (pp. 1-33), by the editors, introduces the critique of degradationist narratives as received wisdom. Thinking which casts Africans as perpetrators and victims of environmental change has obscured other views, and the essay explores how this has been possible. The result is a consideration of the production of knowledge and how it relates to power. Here, the received wisdom was based on scientific authority, even while it lacked scientific rigor. Governments and non-governmental organizations were also involved, for having authority and skills to act upon its conclusions, they also had an interest in sustaining degradationist thinking. Finally, the media spread the alarm. Left out of the discourse, (as understood by Foucault) were the people who lived and worked in these environments.

The following chapters develop these ideas in case studies of many aspects of the environment–soil, water, vegetation, wildlife, forests. The essays typically explore how mainstream thinking developed, how anecdotal evidence took on powerful argumentative force and what factors entrenched poor science and inappropriate policy. They then suggest alternative understandings of the ecological issues, and different priorities for policy. Especially recommended are the chapters by Swift, Fairhead and Leach, Stocking, Tiffen, and Hoben.

Chapters Two through Five explore the situation with regards to pastoralists, probably the group who have been considered the most destructive. Ian Scoones's chapter "Range Management Science and Policy" (pp. 34-53) looks at the history of scientific range management in Zimbabwe. He explores concern about grazing capacity and the growing support for stock limitation and rotational grazing, policies whose success he questions. He lays out how climax-based grazing science became so influential and provides an accessible introduction to arrange science of disequilibrium which challenges these ideas.[3] The next chapter outlines a different relation between degradationist thinking and political power, for the degradation is said to have occurred

in the South Africa Karoo, home to white sheep farmers. In "Soil Erosion, Animals and Pasture over the Longer Term" (pp. 54-72) William Beinart considers the case of the Karoo, a semi-arid region, which is popularly held to have encroached onto grassland because of abusive farming.[4] Beinart's contribution is to show that the historical forces which could have supported Karoo expansion have not always been in place. He also shows how accounts of degradation can serve the political left, for activists against apartheid used alarmist accounts of environmental change.

"Desertification: Narratives, Winners and Losers" (pp. 73-90), by Jeremy Swift, offers a treatment of scientific and governmental response to what is decried as the biggest environmental threat in Africa: desertification. Swift shows how arguments about desertification rested upon questionable uses of data and a conflation of separate processes of change. Politics also played a role here, for concern about degradation strengthened the hand of national governments, development agencies and scientists (the "winners" of his title). The received wisdom of progressive desertification has given way to more nuanced views, which Swift hopes will promote policies friendlier to local farmers and herders (the "losers" of his title). The last chapter on herding, "Wildlife, Pastoralists and Science" (pp. 91-104) by Daniel Brockington and Katherine Homewood, looks at the Mkomazi Game Reserve in Tanzania. They deftly refute the stereotype of irrational pastoralists destroying the commons and give a concise table contrasting the received wisdom and alternative views about pastoralists and parks.

The next two chapters are about forests and people's impact upon them. Readers should take note of "Rethinking the Forest-Savanna Mosaic" (pp. 105-21) by James Fairhead and Melissa Leach, which condenses the argument of their important book *Misreading the African Landscape*.[5] Their argument is that the "forest islands" in the savanna of Guinea are not remnants of a wider forest cover, but that the islands are created and sustained through human action. Their work shows that colonial science was based on assumptions rather than evidence of the earlier wide cover. Their historical research shows that forests have not diminished and their fieldwork reveals how people promote tree cover. Yet they show how intellectual, social, political and financial structures have sustained the image of a half-empty savanna. They close with an interpretation of the landscape based upon an ecology of disturbances rather than equilibrium. The chapter by Reginald Cline-Cole "Dryland Forestry: Manufacturing Forest and Farming Trees in Nigeria" (pp. 122-39) contrasts "expatriate" and "indigenous" forestry systems. Expatriate forestry, first promoted by none other than Frederick Lugard, separates forests from farmland and pasture and also regulates uses in each context. In contrast, the indigenous system involves multiple uses. The chapter evaluates the failings of expatriate forestry and considers to what extent these two systems have come or may yet come together.

The next two chapters consider very basic elements: water and soil. "Soil Erosion: Breaking New Ground" by Michael Stocking (pp. 140-54) is a lively discussion of six myths of soil erosion. Stocking presents and convincingly refutes widely accepted truths about erosion, such as "gullies are the worst," "vegetation protects" and "soil conservation is the answer." This chapter is the volume's best introduction to the alternative non-degradationist thinking. W. A. Adams's essay "Irrigation, Erosion and Famine," (pp. 155-67) sets out to consider indigenous knowledge as incorporated into received wisdom. He looks at the Kerio Valley in Kenya, where colonial officials were impressed with pre-existing irrigation works, yet all the same intervened into local land use. Actually, indigenous knowledge doesn't differentiate the received wisdom here from the other cases.

The last two chapters in the volume are not about theories of environmental degradation, but about how the politics and culture of development work have created received wisdom. In "Land and Capital: Blind Spots in the Study of the 'Resource-Poor' Farmer" (pp. 168-85) Mary Tiffen, a co- author of *More People Less Erosion* returns to the Machakos District of Kenya to consider non-environmental resources, land ownership and capital, and how development research can be blind to these needs and how people fill them. The problem stems from the structure of development agencies and the fashions of development. As other writers have stressed that African farmers have well-adapted farming techniques, she argues that they have resources unrecognized by experts. Furthermore, farmers have the skills to invest wisely. The closing essay by Allan Hoben is most disturbing. "The Cultural Construction of Environmental Policy: Paradigms and Politics in Ethiopia" (pp. 186-208) considers the development policy before and after the 1985 Ethiopian famine, a true catastrophe which stands out from the false alarms in the rest of the book. He describes how national and international political forces gave legitimacy to a Malthusian narrative that soil erosion reduced agricultural production and caused hunger.[6] This Malthusian explanation overlooked indigenous practices to conserve trees and soil, and also the poverty and repression which created hunger. Sadly, this received wisdom motivated a great effort towards soil reclamation af-

ter 1985, which Hoben says was wasted or worse, detrimental.

This volume challenges social and natural scientists as well as development planners to question their assumptions, to check whether their narratives echo received wisdom. The volume gives no easy formula for escaping the trap,[7] but the writers are not cynical. Throughout the volume non-equilibrium ecology (which is based on theories that natural systems are not directed towards a self-regulating climax state), empirical historical research and indigenous knowledge are offered as correctives. Furthermore, the writers promote an attitude that decision-making must become more inclusive. Barring that, those who have power to comment upon African farmers and to intervene in their work must, as Tiffen puts it, "fight their inclination to nanny. There will always be the unskilful or the unfortunate, who need special help, but they should not be conceived as the majority" (p. 185). Tiffen is supported by the empirical evidence that Maasai herders have not threatened the survival of game, that villagers in Guinea's forest-savanna mosaic have not ravaged their woods, and that Machakos farmers have conserved their soil.

Yet, are there no environmental concerns? Scattered through the volume are references to issues which some writers consider to be problems. (See for example, pp. 86, 142-43, 189). Michael Stocking's treatment of soil erosion is indicative of the new thinking. While he disputes the myth that gullies represent serious erosion, he admits that sheet erosion removes more soil than is sometimes recognized. This essay does not address under what conditions sheet erosion is a problem, or how to slow it. In fact, he practically discourages such questions:

"Of course, in many places erosion is bad; crops yields are crashing; land is being abandoned; people are migrating; and a cycle of degradation is commencing on marginal lands as population pressure is transferred. However, to claim that these represent universal links of cause-and-effect is far too simplistic. The evidence from Machakos district in Kenya [citing *More People, Less Erosion*] shows indisputably that erosion may be a passing phase in a farming landscape, during a transition to different land uses, higher populations and new technologies. In these terms, erosion may be good, if it forces populations to adjust" (p. 154).

"Universal links of cause and effect" *is* too simplistic, but it is legitimate to ask at what point environmental change degrades human livelihoods and threatens biodiversity. Perhaps it might be advisable to provide assistance during the adjustment to new land uses. Intensification can involve more restricted access to resources, and poorer people can lose their livelihoods. Erosion may not always be bad, but "adjustment" is not always neutral. This volume has given its attention to refuting the received wisdom of alarm rather than giving positive answers to the question of how to evaluate environmental change. In less principled circles, this could support tendencies toward denial and opportunism. Continued consideration of environmental change is necessary to reach positions of realism and responsibility. If we are fortunate, we will see collaborative work in this direction by the contributors to this volume.

Notes:

[1]. For a discussion of such narrative possibilities, see William Cronon, "A Place for Stories: Nature, History, and Narrative" *The Journal of American History* 78(1992): 1347-1376.

[2]. For a review of earlier work in this vein, see Joanne MacGregor, "Environmental Knowledge under Scrutiny" *Journal of Southern African Studies* 20(1994): 318-326. The most significant book discussed in this review is Mary Tiffen, Michael Mortimore and Frances Gichuki, *More People Less Erosion: Environmental Recovery in Kenya* (London: John Wiley and Overseas Development Institute, 1994).

[3]. For more technical discussions, see chapters in *Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas* (London: Overseas Development Institute, 1993).

[4]. Beinart puts the findings of biologists M. T. Hoffman and R. M. Cowling in historical context. Their work has questioned common assumptions about the inexorable Karoo expansion and found that change may be cyclical, due to natural as well as human factors. M. T. Hoffman and R. M. Cowling, "Vegetation Change in the Semi-Arid Eastern Karoo over the last 200 years: An Expanding Karoo – Fact or Fiction?" *South African Journal of Science* 86(1990) 286-94.

[5]. *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic* (Cambridge: Cambridge University, 1996).

[6]. For another refutation of land degradation in Ethiopia see, James McCann, "The Plow and the Forest: Narratives of Deforestation in Ethiopia, 1840-1992" *Environmental History* 2(1997): 138-159.

[7]. There is a section in the introduction"Ways Forward in Research" 28-33.

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