

Timothy J. Killeen, *A Perfect Storm in the Amazon Wilderness: Success and Failure in the Fight to Save an Ecosystem of Critical Importance to the Planet*, The White Horse Press, 2022, pp. 500, £42.00; \$52.00.

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A Perfect Storm is a long and well-written monograph that aims to provide a comprehensive discussion on the fate of the Amazon. Timothy J. Killeen draws on his extensive knowledge and decades-long experience as a conservation scientist to offer a detailed and activist account of the main challenges and possible pathways “through a perfect storm of environmental mayhem to a sustainable future for the Pan Amazon and all of its inhabitants” (p.64). The monograph attempts to cover the entire Pan Amazon region spanning nine nations and addresses multiple interrelated topics such as infrastructure, land tenure, agriculture, forest economy, extractivism, conservation policy, and indigenous alternatives, among others. Organised in three volumes, it is truly an exhaustive and (overly?) ambitious project. Here I review the first volume composed of four chapters exploring the main drivers of environmental change in the region and the nature and implications of the so-called conventional economy.

Chapter One offers an introductory account of the proximate causes and indirect drivers of environmental degradation. It briefly touches on how various factors shape and determine the current trajectory of tropical deforestation, from concrete infrastructural projects to raising global demand for commodities. This is largely a descriptive analysis accompanied by pertinent broad data and emblematic images. One can appreciate the author’s expertise in environmental dynamics as he concisely introduces the different zones of the Pan Amazon. However, the next section on the political economy of the region is not as strong. The analysis is often too schematic. For instance, the author mixes various political projects and experiences under broad terms such as “nationalist period”. Similarly, complex issues like the contrasting state policies towards indigenous territories are summarised in only a couple of sentences per country. These shortcomings are mainly the result of the ambitious scope of the endeavour. But also reveal some limitations derived from the author’s training and scholarly niche. For instance, the political economy analysis is largely limited to broad considerations about GDP values and contributions.

Chapter two explores the determining role of infrastructural projects on the Amazon’s deforestation over the last decades. It analyses several examples both at the regional and national scales. Pertinent maps and images accompany a detailed description of how roads and highways incentivise forest clearing and, when poorly planned, enable unsustainable activities. We learn the specifics of processes of environmental change associated with large-scale infrastructure and related socio-economic dynamics linked to investment and planning policies. The analysis challenges simplistic assumptions that infrastructure investments necessarily yield economic benefits, highlighting that their social and environmental consequences are often ignored. Infrastructure development thus remains largely unsustainable leading to persistent high deforestation rates and entrenched social inequality. Trying to answer what a sustainable infrastructure in the Pan Amazon would look like, the chapter closes by briefly discussing the need to consider infrastructural investments that “may be uneconomic in conventional terms but justified on humanitarian or ecological grounds”

(p.190), emphasising the pressing need to improve health care and education systems throughout the region.

Chapter three turns the attention towards agriculture. It aims to “describe and understand the predominant agricultural production systems that dominate the conventional economy of the Pan Amazon” (p.228). It distinguishes several so-called “production systems”, including beef production models, intensive agriculture, swine and poultry, biofuels, coffee and cacao, etc. The chapter is organised into subsections that describe each production system in turn before closing with some reflections on the role of certification schemes and rural finance. The descriptive analysis often elaborates on the agricultural features of a given crop/livestock production, its associated costs and technology, scale and geography of production and market demand. The accounts also comment on the share of output associated with different types of producers, commonly distinguishing between smallholders and corporate actors. Yet the relationship between the different actors tends to be presented in a rather static way that downplays the unequal power relations between them. Consequently, no discussion of the complex class dynamics shaping the process of agrarian change is offered. Instead, the reader is left with the simplistic idea that changing the status quo is about “convincing” the economic elites that there are other “growth-positive options” they could pursue. Framing the problem as an issue of “right decisions” overlooks the structural determinations imposed by agrarian capitalism, including the compulsion to maximise profits above all else – which, incidentally, gives the chapter its title: profitability determines land use.

The last chapter in this volume centres on the land question. It is mostly focused on the dynamics of rural real estate markets and state institutions governing land. Arguably, a more sophisticated treatment of this crucial topic would have located it within a larger historically-specific agrarian question. That said, the chapter does offer a useful account of how land is distributed, governed, and used in the Pan Amazon. The analysis combines official figures with a discussion of specific cases throughout the region. It shows the relevance of land-use plans and other state land policies to shape the way land is being managed. This contextual discussion is followed by a reflection on the potential of protected areas and indigenous reserves to conserve the Amazon’s biodiversity. Here again, Killeen draws on his undeniably vast knowledge of ecosystem dynamics and natural resource management to explore new ways in which land could be used and governed to produce more socially just and environmentally sustainable outcomes.

Overall, *A Perfect Storm* is a useful book for anyone interested in the broader dynamics shaping the process of environmental change in the Pan Amazon. It is particularly helpful as a source of comparative data, didactic imagery, and contextual information. It is less convincing on the political economy front given the limitations imposed by its unwieldy scope and implicit utilitarianism.