

The Environmental Dimensions of Today's Food Insecurity

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Environmentalist icon Lester R. Brown denounces our excessive ecological footprint and the prevailing food insecurity that stems from the current geopolitics of food. From this pessimistic and alarming standpoint he proposes a “Plan B” to help us cope with this vicious cycle. Yet the way out remains uncertain and imprecise.

Reviewed: Lester R. Brown. *Full Planet, Empty Plates. The New Geopolitics of Food Scarcity*, New York, W.W. Norton, 2012, 123 pages.

Lester R. Brown, an environmentalist since the dawn of the 1960s, penned over fifty works on the state of—read, overexploitation of—natural resources; a renowned expert, he is also president of the [Earth Policy Institute](#), one of the main American think tanks on the issue of environmental sustainability. He was a farmer who became fascinated by issues of environmental security, and notably food security. *Full Planet* updates and expands on several of his key themes developed over the last fifty years, notably in *Who Will Feed China?* (1995), which predicted early on the Chinese politics of massive imports of food products and its impact on world food prices, and *Outgrowing the Earth* (2004), which denounced our excessive environmental footprint, the origin of food insecurity.

Here, nine chapters (out of eleven) present a catalog of structural trends and imbalances that shape a menacing “new geopolitics of food” (p. 115). Today’s tremendous population pressure calls for the “demographic transition” for the poorest countries already threatened by “the demographic trap” (p. 20-21), especially since “some 3 billion people are moving up the food chain” (p. 25) due to meat- and dairy-based diets. The on-going diversion of agricultural products to produce biofuels contributes to rising food prices and supply deficits. Various forms of resource depletion compound one another: erosion of soils that form “the skin of the earth—the frontier between geology and biology” (p. 46); overexploitation of water and depletion of numerous aquifers, resulting in the need for even deeper—but less productive—wells; and the stagnation of agricultural productivity, except for corn, which is a notoriously thirsty crop. Finally, climate change favors irregular and extreme weather patterns, and the South is a victim of a global rush for its land and agricultural resources. Readers are left badly shaken and at times overwhelmed by this collection of bad news.

Clear and Clearly Worrying Theses

These meticulous descriptions imply a general conclusion, which is also elucidated in the last chapter. First, Brown offers a meta-theory of history: the fate of civilizations is not determined by God, class struggle, or race, but by our relationship with the natural environment, where food constitutes the “weak link” (his “weak link” warning is issued in the introduction, p. 5, and reiterated in the conclusion, p. 122) of human societies, including our advanced industrial societies. The crises of survival stem from agriculture, not energy, and there is no exception to this law in History. Here, the author extends the theories of Jared Diamond in *Collapse* (2005), which explains the disappearance of the Vikings in Greenland, the Polynesians of Easter Island and the Maya in Central America through their excessive predation on nature, itself resulting from destructive socio-economic *choices*. Next, since food is the “weak link,” responding to current food insecurity is no longer the sole responsibility of agricultural policy, but must also mobilize the Departments of Energy and Transportation, water resources, family policy, fiscal policy, etc. In fact, the food crisis is the canary in the coalmine, the harbinger of the future, because civilization itself is in peril and requires a global, simultaneous and urgent approach to all parts of the problem. Brown’s solution, which he calls *Plan B*, is detailed in half a dozen regularly-updated books (*Plan B 2.0, 3.0, 4.0*), and he summarizes it again here. On the demand side, Plan B proposes to limit land, agricultural and water demand by stabilizing the population; it also includes the fight against poverty and a reduction of the production of meat and biofuels, which devour great quantities of agricultural products. On the supply side, it proposes to stabilize the climate, review energy and fiscal policies, increase water productivity and ensure soil conservation.

The magnitude of these badly needed reforms shows that, if Brown avoids *explicitly* criticizing the foundations of modern capitalism (private property, unequal distribution of wealth, paradigms of growth and consumption, captive political system), he actually goes well beyond the reformism of sustainable development or a managerial vision of socio-environmental problems. Like his previous works, *Full Planet* does not *explicitly* mention neo-liberalism or the structures of contemporary trade behind environmental degradation, but Brown radically denounces the structural contradictions of capitalism in order to promote an anti-globalization development model. By tactic or temperament, he speaks to power structures (Washington and beyond) strictly in terms of interests and security. His apparently apolitical approach uses a “modest” programmatic language (*What is the problem? What to do?*), offers a great abundance of figures and statistics as evidence, while avoiding theorizing and making *frontal* attacks against the symbols and the sacred cows of the hegemonic system. He advances with a mask on, with the wisdom of a farmer accustomed to slow tasks in changing weather, and the scars of the old veteran of Washington politics, but in fact he proposes to “save civilization itself” (p. 123).

A complex position in the field of environmental futurology

Because of this pragmatism in form, it may seem difficult to link Brown to established alternative political-economic theories, to well-established radical critiques of capitalism, but many clear similarities emerge. He shares with theorists of sustainable degrowth (in fact the "*acroissance sustainable*" of Serge Latouche) a refusal of the hegemonic consumerist and productivist system. However, Brown does not seem concerned about the "travaillisme"—that is, the endless downward spiral that requires working harder in order to survive and as a form of identity, or even the objectives of the steady-state economy, two ideas at the heart of Serge Latouche's approach. Similarly, he does not identify with other expressions of ecological thought such as "happy sobriety" (Pierre Rabhi), social ecology (Éloi Laurent in France), libertarian eco-Communalism (Murray Bookchin), eco-socialism, political ecology (in the sense of the vast leftist movement of the 1960s and 1970s, Hervé Kempf in France for example), or deep ecology and its radical biocentrism. In contrast, like the agricultural experts Lydia and Claude Bourguignon, Brown denounces the war-like methods of agro-business and highlights the need for microbiological soil restoration. In fact, soil constitutes a living environment, which agriculture should treat not as a form of capital on which to drop chemicals, but rather as a fragile expression of biochemical life.

Brown also shares with the sustainable degrowth and environmental economists (Herman Daly, Robert Costanza in the United States, Éloi Laurent and Jacques Le Cacheux in France) a marked skepticism towards technology as the ultimate solution to the conundrum of scarcity and the problems (pollution, overfishing, etc.) that technology itself creates. The "technoptimists" are so-named because they believe that solutions to environmental problems will be found in (more) technological development: for instance, GMOs to solve hunger, hydraulic fracturing to find new sources of oil, etc. Brown welcomes the progress in agricultural techniques and even offers some interesting lessons on the comparative fertility of various grains and legumes; the importance of latitude for the duration of sunshine and plant productivity; and the role of nitrogen, phosphorus, potash and irrigation techniques in the Green Revolution. At the same time, he constantly emphasizes the *technical and physical plateaux*, notably the limits of photosynthesis on plant productivity (fertilizers enhance agricultural productivity only up to a point because they run up against the physiological constraints of plant growth), land availability, performance of agricultural inputs, and thus lower the return on agricultural investments (pp. 72-82). Here, Brown is in line with Turgot (the law of *diminishing returns*), David Ricardo and his law of *diminishing marginal rent* (lands conquered in the past are less productive and result in lower returns on investment than ancient lands, which were exploited first precisely because they were the most fertile) and the British economist Alfred Marshall, one of the founders of neoclassical school, which had advanced the so-called *non-proportional returns* law. Today, many anti-globalization and eco-socialists attribute the acceleration of economic activities and global competition precisely to *lower returns on capital*.

Brown situates himself in a tradition for which capital faces the objective limits of the environment. This explains its growing financialization and headlong rush toward “peak oil” and “peak everything,” and affects international stability through rising tensions and struggles related to raw materials and commodities. These dangers of shortages therefore contribute to rivalry or conflict between states. In addition, these shortages and imbalances compromise human security (of individuals, communities and societies that suffer) through poverty, underdevelopment, and socio-economic polarization. In the United States after the fall of the Soviet Union, Robert D. Kaplan’ famous and controversial article fixed the educated public’s attention on issues of resources. In *The Coming Anarchy* (*The Atlantic*, February 1994), he foresees a ferocious, bilious, cantankerous and dangerous world where resource scarcity, overpopulation, tribalism, pandemics and poor governance tear apart the South and threaten developed countries. If his muscular patriotism and defense of “little wars” of the United States discredit him in the eyes of some, his alarm bell concerning the mounting tensions over resources reverberated widely, and Brown and others are amplifying his warnings.

Indeed, in the 1990s, the Clinton administration proved responsive to the views of the Toronto School led by Canadian professor [Thomas F. Homer-Dixon](#), who places at the center of his thinking the relationship between environmental stress, scarcity (natural or organized), conflict and security. His conclusions, expressed notably in *Environment, Scarcity, and Violence* (2001) still hold: the effects of environmental stress are “indirect;” that is to say, to give rise to sub-state or inter-state conflicts, they must combine with other types of tension with a cultural, historical-political, or economic origin. For example, today’s inter-state tensions between China, Japan and Taiwan in the East China Sea are not *imposed* by the sharing of maritime resources, but result from non-environmental factors: the legacy of World War II, China’s rise and growing ambitions, internal politics and nationalist unrest in these countries, etc. The need for sharing could also lead to regional agreements such as Mercosur or ASEAN. Hence Homer-Dixon’s second major conclusion: the choice of collaboration reduces the likelihood of conflict, particularly in countries with open markets, the rule of law and free citizens. Brown is closer to this rather optimistic trend that posits that we can still peacefully address hydro-environmental stress, than to the deterministic trend, illustrated by political scientists such as Michael T. Klare (*The Race for What's Left: The Global Scramble for the World's Last Resources*, 2012), economists like Dambisa Moyo (*Winner Take All: China's Race for Resources and What It Means for the World*, 2012) or journalists such as Cleo Paskal (*Global Warring: How Environmental, Economic, and Political Crises Will Redraw the World Map*, 2010) who consider our environmental situation so deteriorated that conflicts over resources are now inevitable.

From a Local Problem to General Dysfunction

Brown shows a knack for illustrating the general through the particular by explaining the larger trends through revealing stories, such as the dust bowls that now affect China and the Sahel, or the agricultural stress of the Fertile Crescent and nearby countries, all regions crucial to global stability. A dust bowl is largely caused by over-farming and the destruction of indigenous

plants that hold the soil down, and by the destruction of forests and woodlands that provide habitat for animals and limit soil erosion caused by wind and precipitation. These degradations weaken and dry out soil, which turn to dust that the winds then transform into colossal storms of soil particles. Then they are carried and dispersed over long distances, affecting the lives and health of plants, animals and people. This process thus creates deserts and semi-arid zones hostile to agriculture and to life. Today, the desertification of northern China is growing steadily and dust storms are multiplying. Every summer, hundreds of millions of Chinese in the eastern part of the country must wear masks or close themselves inside their homes. Economic activity slows down significantly, mortality rate jumps due to the climate, the desert creeps within 50 kilometers of Beijing, and every year now, Koreans fear what they call the “fifth season”: the dust storms of late winter/early summer (p. 50). Similarly, the Greater Sahel (from Senegal to Sudan and the Horn of Africa), an already fragile region, is drying up and local populations suffer greatly. As for the Middle East, hydro-agricultural stress and food insecurity have played a key role in the Arab Spring and the Syrian civil war, and further weaken this volatile area. Saudi Arabia, which launched a vast self-sufficiency project for wheat in the 1970s, has now drained its main aquifer, and sadly, is expected to produce its last great harvest of wheat in 2016 (p. 60). Meanwhile, Yemen is devolving into a Haitian nightmare scenario where population pressure and advanced degradation of resources and ecosystems are fostering a destitute society, tense social relations and a failed state...

In conclusion, Brown offers a synthesis of the major trends of environmental degradation of our time. His somber, systematic and cumulative descriptions are based on fifty years of scientific studies, political experience and environmental activism. One may agree with his general recommendations for action, but they neglect to mention the role of business, public awareness and the education of the younger generations. His solutions seem accurate, but sadly, he assesses neither their social, political and cultural feasibility, nor the solutions already in place. He also does not address successful current initiatives, their failures and their general dynamics. This is unfortunate because these types of grassroots studies could strengthen his general propositions by indicating procedures and pragmatic methods. Malthus’s shadow looms over the present and the future that he describes. Lester R. Brown does not tire of repeating what the world does not want to or cannot hear, yet one hopes that with him and others of course, we will learn to manage the unavoidable in order to avoid the unmanageable.

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