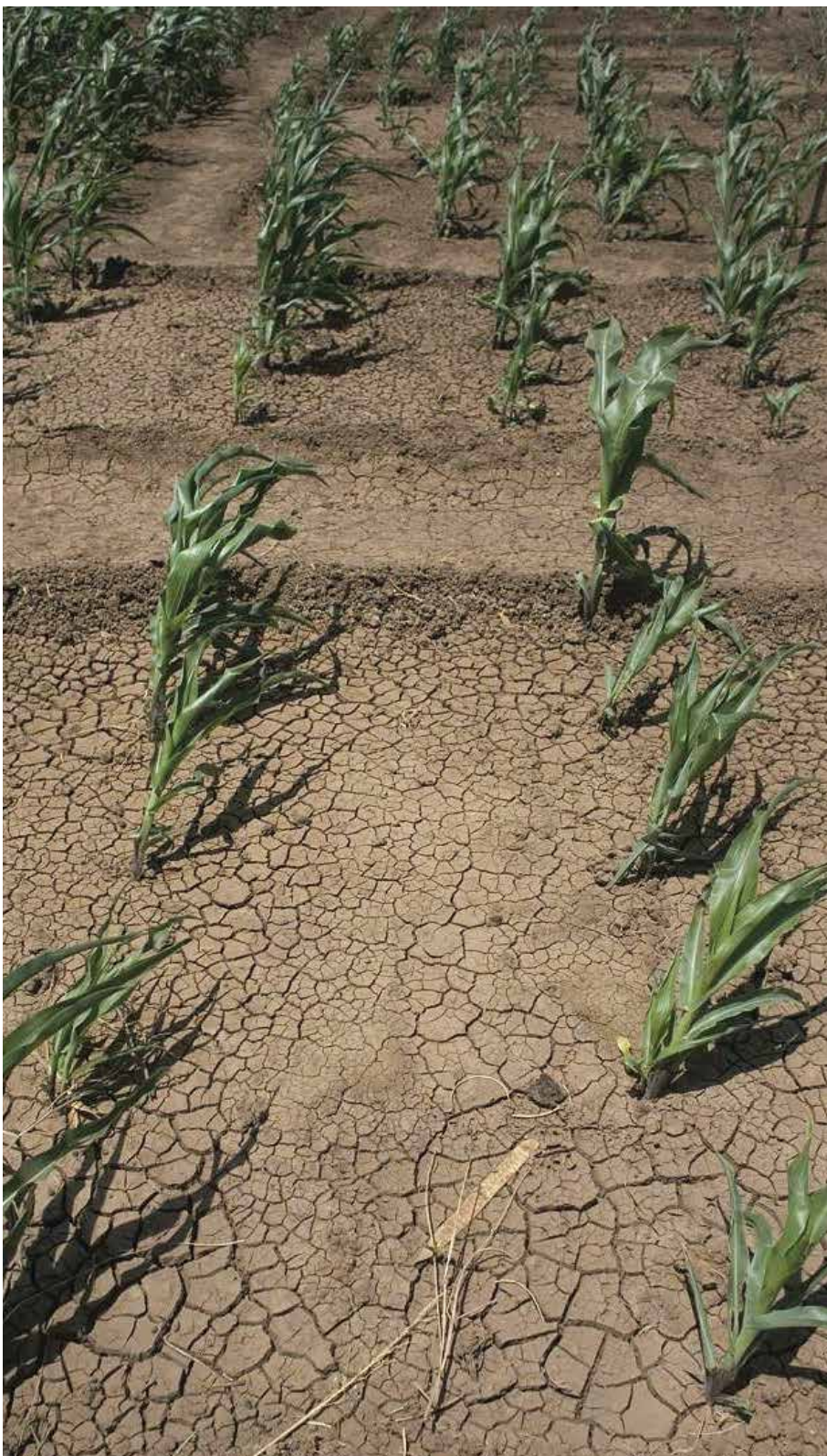


*We're treating soil like*

**DIRT.**

*It's a fatal mistake.*



**With no cover, soil dries out faster. The effects of drought are intensified.**

WRITTEN BY GEORGE MONBIOT

*George Monbiot's editorial, adapted and reprinted below with permission from the author, highlights the importance of protecting, restoring and investing in soil health to meet our growing global food demands and ensure our collective survival. It is also a reminder why conservation practices like no-till, cover crops and crop rotation must be at the center of any smart policy on agricultural development, not relegated to the sidelines. A version of this article first appeared in the United Kingdom in The Guardian.*

War, disease, even climate change, are small problems by comparison. Destroy the soil and we all starve.

Imagine a wonderful world, a planet on which there was no threat of climate breakdown, no loss of freshwater, no antibiotic resistance, no obesity crisis, no terrorism, no war. Surely, then, we would be out of major danger? Sorry. Even if everything else were miraculously fixed, we're finished if we don't address an issue considered so marginal and irrelevant that you can go for months without seeing it in a newspaper.

It's literally and – it seems – metaphorically, beneath us. To judge by its absence from the media, most journalists treat it as unworthy of consideration. But all human life depends on it. We knew this long ago, but somehow it has been forgotten. As a Sanskrit text written in about 1500BC noted: *“Upon this handful of soil our survival depends. Husband it and it will grow our food, our fuel and our shelter and surround us with beauty. Abuse it and the soil will collapse and die, taking humanity with it.”*

The issue hasn't changed, but we have. Landowners around the world are now engaged in an orgy of soil destruction so intense that, according to the UN's Food and Agriculture Organization, the world on average has just 60 more years of growing crops.





**Tillage of soil on slopes is a recipe for disaster, causing the soil to lose production capacity and value.**

To keep up with global food demand, the UN estimates, 6 million hectares (14.8 million acres) of new farmland will be needed every year. Instead, 12 million hectares (29.6 million acres) a year are lost through soil degradation. We wreck it, then move on, trashing rainforests and other precious habitats as we go. Soil is an almost magical substance, a living system that transforms the materials it encounters, making them available to plants. That handful the Vedic master showed his disciples contains more micro-organisms than all the people who have ever lived on Earth. Yet we treat it like, well, dirt.

The techniques that were supposed to feed the world threaten us with starvation. A paper just published in the journal *Anthropocene* analyzes the undisturbed sediments in an 11th-century French lake. It reveals that the intensification of farming over the past century has increased the rate of soil erosion sixtyfold.

Another paper, by researchers in the UK, shows that soil in leased gardens – the small patches in towns and cities that people cultivate by hand – contains a third more organic carbon than agricultural soil and 25 percent more nitrogen. This is one of the reasons why gardeners produce between four and 11 times more food per hectare than do farmers.

*“This is the International Year of Soils, but you wouldn’t know it. War and pestilence might kill large numbers of people, but in most cases the population recovers. But lose the soil and everything goes with it. This is what topples civilizations.”*

Whenever I mention this issue, people ask: “*But surely farmers have an interest in looking after their soil?*” They do, and there are many excellent farmers who seek to keep their soil on the land. There are also some terrible farmers, often absentees, who allow contractors to rip their fields to shreds for the sake of a quick profit. Even the good ones are hampered by an economic and political system that could scarcely be better designed to frustrate them.

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Almost all other issues are superficial by comparison. What appear to be great crises are slight and evanescent when held up against the steady trickling away of our subsistence.

The avoidance of this issue is perhaps the greatest social silence of all. Our insulation from the forces of nature has encouraged a belief in the dematerialization of our lives, as if we no longer subsist on food and water, but on bits and bytes. This is a belief that can be entertained only by people who have never experienced serious hardship, and who are therefore unaware of the contingency of existence.

It’s not as if we are short of solutions. While it now seems that plowing of any kind is incompatible with the protection of the soil, there are plenty of means of farming without it. Independently, in several parts of the world, farmers have been experimenting with zero-tillage (also known as conservation agriculture), often with extraordinary results.

There are dozens of ways of doing it: we need never see bare soil again.

But, though every year governments spend billions of dollars on agricultural research and development – much of it on techniques that wreck our soils – there is little mention of conservation agriculture.

The macho commitment to destructive short-termism appears to resist all evidence and all logic. Never mind life on Earth; we’ll plow on regardless.

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*The Howard G. Buffett Foundation is a private family foundation working to catalyze transformational change to improve the world and the lives of the most impoverished and marginalized populations. The Foundation has invested over \$150 million in research to improve agriculture and an additional \$350 million in agriculture-related programs globally.*