

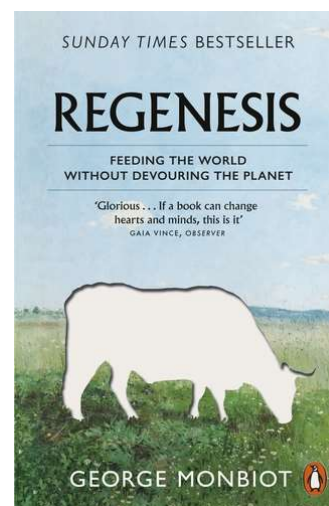
Book review: *Regenesis: Feeding the world without devouring the planet* George Monbiot. 2022. Published by Penguin, ISBN 978-0-14-313596-8

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Regenesis: Feeding the world without devouring the planet. By George Monbiot

George Monbiot is a newspaper columnist, investigative journalist and political and environmental activist. He is a tenacious reporter and has long been a fierce defender of environmental protections and human rights. His meticulously researched and accessible writing has won him awards around the world, most recently the 2022 Orwell Prize for Journalism, and his work has received widespread critical acclaim. At the same time, his aggressive and partisan journalistic style (he admits he writes objectively but never impartially) has won him less enviable accolades, including a life sentence *in absentia* in Indonesia and *person non grata* status in other nations.

He studied zoology at Oxford University in England, and although the natural world would later become the focus of some of his most influential works, he began his career in investigative journalism exploring human rights flashpoints around the world. His first three books reported on land expulsions, forced transigrations and other social injustices against indigenous communities across Asia, South America and Africa. Later, he

broadened his focus to include the climate, natural world and politics in the UK and abroad. Heat (2007) explored the climate crisis and its potential solutions, then Feral (2014) looked at issues surrounding agricultural land use in the UK and the value of the rewilding movement.

Regenesis was published in 2022 and was at least partially inspired by the ongoing ecological crisis in the River Wye in Wales, UK. Upset by the rapid decline in the health of the river, in 2021 Monbiot organised what he claimed to be the world's first live-broadcast documentary to find out what was happening to the river and who was responsible. The documentary featured contributions from river health campaigners and local community members from around the UK, all of whom reported sudden declines in river ecosystem health and aesthetic beauty at locations across the country. Perhaps the most alarming aspect of the investigation was the fact that while the health of the UK's rivers is declining, the governmental budgets allocated to their protection have been cut by up to two thirds. Monbiot argues that the local campaigners he invited to talk on the broadcast are actually the only people actively trying to prevent profit-driven agribusinesses from destroying our rivers. *Rivercide*, aired

on July 14th 2021, marked the beginning of Monbiot's relentless investigation into the poorly regulated and environmentally unsound practices of the UK agricultural sector.

Thus, *Regenesi*s was researched and written to find out how and why agriculture has such destructive impacts on nature, why those impacts are neither monitored nor regulated and what changes we must make to continue feeding ourselves without causing further harm. Thankfully, though, the book is far from an exhausting list of bad news and immoral actors. At heart Monbiot is an outdoorsman deeply inspired by nature, and his

admiration for the natural world is the spoonful of sugar that helps this ecoanxiety-inducing medicine go down.

The book begins with a wonderful introduction into the underground world of soil ecology, digging into the dizzying biodiversity and ecological complexity found just beneath our feet. Monbiot's infectious curiosity and the delight with which he learns about a world that is new to him make this subterranean exploration deeply satisfying to read. He includes many captivating facts and anecdotes that are immediately accessible to readers of all backgrounds. If you would be interested to know of the 'tamed evil' that is likely to be residing in your fruit bowl, or to ponder the 'enigma of the oribatids', or discover what made soldiers' wounds shine with a ghostly 'angel's glow' during the American civil war, you will find the answers to these and many more mysteries woven into the book's narrative.

Readers learn that the biodiversity of English soils may rival that of the Amazon rainforest, and that a single gram of soil can contain a billion microbes and a kilometre of fungal hyphae. These are figures that the mind can scarcely comprehend, let alone process in any meaningful way. Monbiot takes the exploration further and gives his readers a glimpse into the complex chemical relationships that have evolved between trees, fungus and bacteria. It is these intricate and finely balanced relationships, invisible yet vital, that underpin terrestrial ecosystems and form the basis of our food production systems. As is clear to anyone with even a passing interest, farming is not a process well-suited to the protection of intricate and finely balanced relationships, even in its most environmentally-considerate forms. Brutal tilling regimes and extensive monocultures have devastated soil health around the world. This is the stark reality that sets the stage for the book's main thesis: how to maintain our vast food output even as the ecological bedrock of the whole endeavour becomes unstable.

*Regenesi*s discusses food production as a global system through the lens of modern systems thinking. It describes our food production and distribution networks in terms of stocks, flows, links, nodes, hysteresis, resilience and redundancy. These are familiar concepts to ecologists and environmental scientists, and the ideas are readily applicable to a discussion of the global food system. The potential for systemwide collapse becomes clear as

Monbiot lists the ways in which the globalization of our food distribution, and the domination of production by a

handful of agribusiness behemoths, has eroded every one of the facets that maintain a resilient system. The global shift towards a homogenous diet, storage of food surpluses by for-profit entities, and just-in-time distribution practices have left the entire system weak and vulnerable. The phenomenon of 'flicker', whereby a struggling system begins to show inconsistencies prior to a catastrophic loss of stability, is especially terrifying when applied to a system that feeds 8.3 billion people.

A common thread that runs through Monbiot's writing, in this book and in others, is his critical examination of our precious received wisdom, which he encourages us to

rethink and often abandon. His arguments are forceful and may occasionally veer towards the strident but are always convincing and firmly scaffolded with supporting evidence. He carefully unpicks many of the entrenched ideas that cloud the issues of climate change, food scarcity and biodiversity loss. It is commonly believed that some of the keys to these crises lie in the obvious failings of the system as it is, illustrated by ideas like:

- We waste a third of food, so just redistribute it.
- Farmers are forced into bad practices by the low cost of supermarket food, so food pricing should reflect the real environmental costs of production.
- If everyone ate naturally grown organic food and embraced modern agroecological approaches we would decimate our ecological footprint.
- If food was grown and distributed locally everyone would be healthier and the food industry would be decarbonized into the bargain.

These views are widespread, and there are almost certainly aspects of truth and great value in each of them. However, Monbiot exposes the hidden misconceptions, misinformation and bad logic, and shows that in the context of the world's growing population and shrinking habitats none offer any real hope. He goes on to explore deeply rooted myths, such as the romantic notion of the farmer as pastoral guardian living at one with nature, and the idea of Grandma's kitchen as a bastion of healthy, environmentally-friendly food preparation. Such idylls, as you can by now guess given the general tone of the book, do not hold up well against critical examination.

*Regenesi*s provides a wonderful education in topics that are not usually known among laypeople. Some of the issues are genuinely intractable, wicked problems that challenge our established society, and for which only society as a whole can realistically be held accountable. For example, as countries gain wealth diets become richer in protein and fats, a correlation known as Bennett's Law. This trend is sure to put increasing pressure on dwindling land resources, but it is a seemingly unshakable

companion of societal development. Rising temperatures and CO₂ levels have a silent but pernicious side effect – our crops are losing valuable nutrition and gaining ‘empty’ calories. We will need to eat more to reach our

recommended daily allowances of B vitamins, calcium, protein and many more of our essential nutrients. Other issues are clearly the products of human failing, be it regulatory weakness, corporate greed, political apathy, or any number of other modern evils. For example, a vast ecological dead zone in the Cambrian Mountains in Wales is the unfortunate result of a major habitat hysteresis, a permanent loss of ecosystem complexity, which is linked to poor policy decisions surrounding sheep farming subsidies. The meaningless Red Tractor logo, awarded to farms that ‘farm with care’ is singled out for particular criticism as a symbol of underfunded and ineffectual government regulation.

The idea that we are cumulatively exposed to carcinogens and forever chemicals because farmland is a cheap way to dispose of ‘night soil’ is particularly repulsive, and I will save the unsavoury details for those who wish to read the book itself. We also learn of the widespread environmental damage caused by some ‘green’ solutions such as biofuel for transport, and alternative production materials such as corn starch and potato. No one, ecologically minded or not, can read about the activities of America’s euphemistically named Wildlife Services and not be horrified. The ‘cyanide landmine’ is every bit as dismaying as it sounds and just one part of a chapter that I wish I could unread.

A great strength of Monbiot’s journalistic style is his determination to weave the views and lived experiences of real people through his discussions of challenging concepts. He visits food banks to learn about the lives of struggling families in the midst of a crushing post-pandemic cost of living crisis. He visits the hardworking people of charity organisations such as Fareshare, who are doing their best to focus help where it is needed. Most important of all, he gets to know the farmers who are trying to shape the future of agriculture by learning how to grow food without destroying their land. One of the book’s central characters is Iain Tolhurst, a farmer who, through his own pioneering Stockfree Organic approach, has coaxed rising yields from seven acres of moderate quality agricultural land without artificial fertilizers, pesticides, manure, or livestock input. The people and their stories are treated with care and they serve to add depth to the overall structure of the narrative. They also provide a welcome contrast to the more challenging, less cheerful content.

The second half of *Regenesi*s is devoted to the potential solutions to the bad news provided in the first. Those who follow current environmental affairs will recognise this well-travelled path, used by so much climate and biodiversity communication in the last fifty years: ‘it’s bad, but it’s not too late!’ There are enough good ideas and novel approaches found here to allow the

reader hope for the future, but I also felt a sense of apprehension. Some solutions, such as replacing annual crops with perennials like the American crop Kernza, encourage cautious optimism. Others, such as replacing meat with bacterially-grown protein products, seem like the last-ditch efforts of a distant, exotic future. Given the

scale of the problem, it is perhaps unsurprising that the solutions are not built upon readily actionable, incremental improvements. They require tough, revolutionary, wholesale changes to our lives. I will not go into details here, and I hope that anyone who has not yet read this book will feel compelled to do so. One thing held in common by the possible solutions outlined in the book is that uptake must be swift and wide-ranging, so the more people that experience this book’s clamorous wake-up call the better.

Although *Regenesi*s was published in 2022, its messages are becoming more relevant with each passing year. We are now seeing the first of the long-feared tipping points as the Amazon begins an irreversible shift

to grassland, and the coral reefs begin their final decline. Florida’s elkhorn and staghorn corals were declared functionally extinct in late 2025, and with the Global Tipping Points Report 2025 we were faced with the grim but inevitable news that warm water corals are now in a state of long-term global deterioration. The loss of the world’s reefs is incalculable, but insignificant compared to the chaos that would ensue if our food systems disintegrated.

In November 2025, the UK held its first ever National Emergency Briefing on the climate and nature crises. Nine experts from academia, industry and healthcare gave impassioned speeches with the same message repeated again and again: climate and biosphere breakdown are no longer adverse future outcomes, they are currently unfolding existential emergencies. Tipping points, nature loss and food security, many of the main themes of *Regenesi*s, were major focal points and received particularly dire warnings. However, even on this stage the state of global soil health went unrepresented. Professor Paul Behrens of Oxford University described the damage that our food system is causing, from climate change to antibacterial resistance, but made no mention of the declining quality of our soil. Perhaps his presentation would have been different had he read *Regenesi*s before writing his script. Regardless, Professor Behrens makes it clear how precariously-positioned our society is becoming, as climate change amplifies the problems inherent in our food distribution systems. As the professor explains, Eighty per cent of food security experts foresee civil unrest in the UK in the next 50 years as a result of food supply crises. It is terrifying indeed to imagine how close we are to societal instability simply because we cannot protect the environment that feeds us.

Following in the footsteps of the book itself, I will end this review on a positive note. The extensive research Monbiot undertook to write the book (he said he read over

5,000 academic papers) gave him a crash course in soil science and an overview of the current problems from his journalist's wide-angled perspective. Much of the book is devoted to a crucial trade-off within the agricultural system – that of high yields and environmental health. Unfortunately, we have never been able to attain the first without sacrificing the second. Introduced above, Iain Tolhurst (known to Monbiot and his readers as Tolly) has

managed through extensive trial and error to harness natural soil system balances and fluctuations and bring the best out of his crops at minimal cost to the natural environment. Our knowledge of soil systems is so poor, however, that Tolly's success has proven impossible to replicate with any real consistency. In the book, Monbiot outlines the problem: that funding tends to be spent on the exploration of soil chemistry, when in fact it is the soil biology, brought to life so vividly within the pages of *Regenesi*, that may hold the key to the yield/damage dilemma. Monbiot explains the need for the world's soils to be mapped to a greater resolution and for the dynamic interplay between crops, bacteria and fungi to be better understood. He mentions, in passing, that we would do well to invest our time and money in an Earth Rover project to help us master our own soils, instead of pouring

countless billions of dollars into each gram of soil analysed from Mars. He makes a sensible point. Since the book was published, Monbiot has in fact put his money (and a considerable lump of Jeff Bezos's) where his mouth is. Along with Professor Tarje Nissen-Meyer, Professor Simon Jeffry, and Katie Bradford, he founded the non-profit Earth Rover Program, which launched on World Soil Day, December 5th 2025. With four million dollars from the Bezos Earth Fund, the program is revolutionizing soil science by using seismology to read

soil content. All a farmer needs to take advantage of the fledgling science of 'soilsmology' is a cheap sensor, a small metal plate and a welder's hammer. The founders hope that future farmers anywhere in the world,

regardless of their financial resources, will have instant access to useable information about the health of their soil. That this promising new technology is in the hands of a non-profit, and especially one founded by George Monbiot and others like him, feels like a victory for sensible climate solutions and a ray of hope for the future.

For anyone involved or even interested in the world of biodiversity and ecology, *Regenesi* is painful but

essential reading. Monbiot thoroughly interrogates the inner workings of our self-made biodiversity crisis, holds corporations and governments accountable, and is realistic about what it will take to solve the problems. While his writing is clearly hardened by anger and frustration at what he sees as a broken system, at the same time it is tempered by a keenly communicated love for living things and the natural world. As he writes on his website, "I love not man the less, but nature the more". Like *Feral* before it, the book occupies a point somewhere near the intersection of conservation efforts, state governance, political will and powerful lobbying from the agricultural industry. The resulting Gordian Knot is a bureaucratic nightmare typical of other environmental and climate issues, with further nature losses as the usual unavoidable outcome. While the final message of the book is ultimately positive, those who already experience any form of ecological grief will find it a gruelling experience. It is a vital and accomplished work of journalism and one that will remain relevant, unfortunately, for many years to come.

References

- Earth Rover Program. Available at: <https://www.earthroverprogram.org/>
- George Monbiot (2025). In *Wikipedia*. https://en.wikipedia.org/wiki/George_Monbiot
- Horton, H. (2025, December 5). 'We can tell farmers the problems': experts say seismic waves can check soil health and boost yields. *The Guardian*. Available at: <https://www.theguardian.com/environment/2025/dec/05/soilsmology-seismic-waves-soil-health-boost-yields>
- Lenton, T. M., Milkoreit, M., Willcock, S., Abrams, J. F., Mc Kay, D. L. A., Buxton, J. E., ... & Wieners, C. (2025). Global tipping points report 2025.
- Monbiot, G. (2007). *Heat: How we can stop the planet burning*. Penguin UK.
- Monbiot, G. (2014). *Feral: Rewilding the land, the sea, and human life*. University of Chicago Press.
- Monbiot, G. (2025, December 5). Over a pint in Oxford, we may have stumbled upon the holy grail of agriculture. *The Guardian*. Available at: <https://www.theguardian.com/commentisfree/2025/dec/05/agriculture-revolution-soil-farming-earth-rover-program?>
- National Emergency Briefing on Climate and Nature (2025). Available at: <https://www.nebriefing.org/>
- The Orwell Prize (2022). 2022 Journalism Prize Winner. Available at: <https://www.orwellfoundation.com/journalist/george-monbiot/>
- Readfern, G. (2025, October 13). Planet's first catastrophic climate tipping point reached, report says, with coral reefs facing 'widespread dieback'. *The Guardian*. Available at: <https://www.theguardian.com/environment/2025/oct/13/coral-reefs-ice-sheets-amazon-rainforest-tipping-point-global-heating-scientists-report>
- Rivercide (2021). *Rivercide*. Available at: <https://rivercide.tv>

