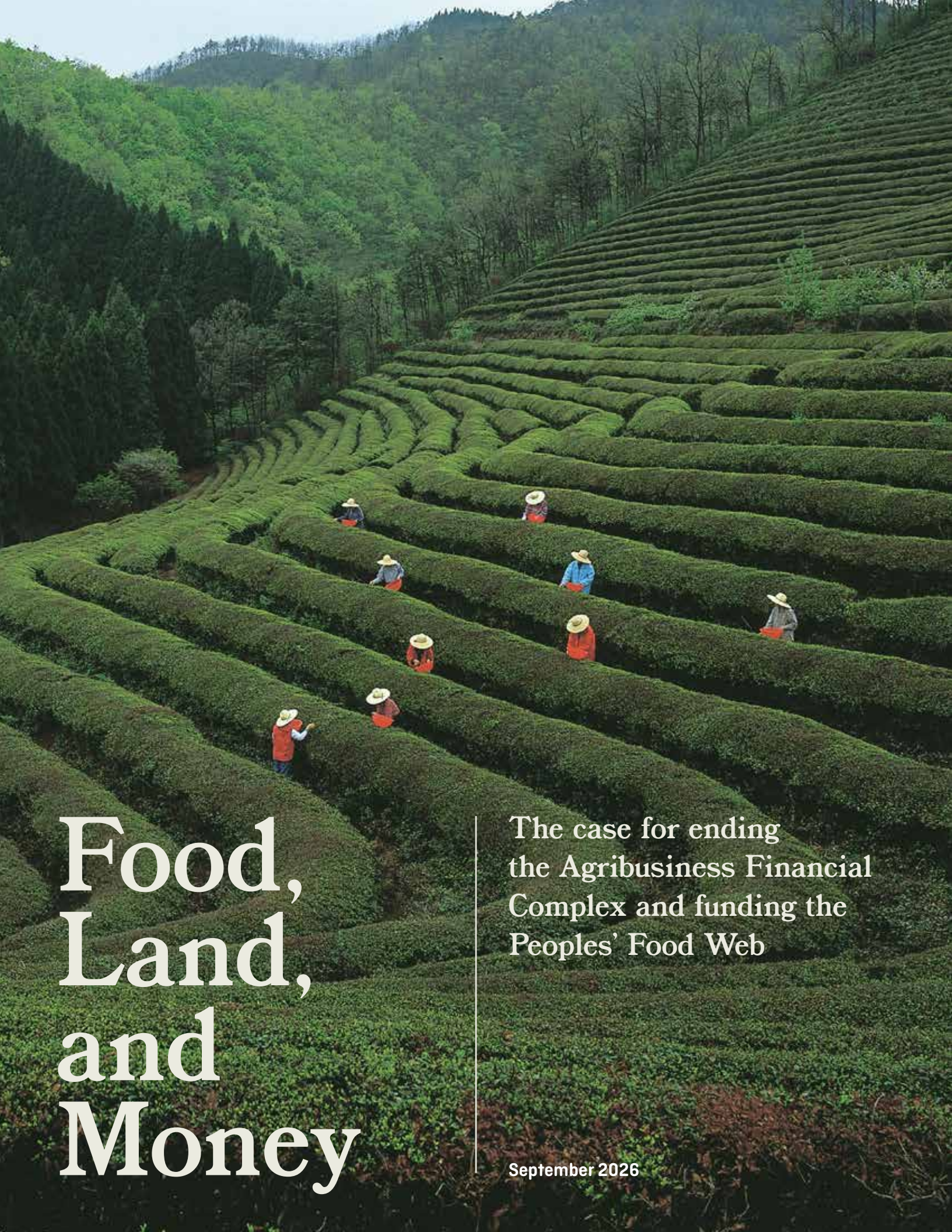


Food, Land, and Money

The case for ending the Agribusiness Financial Complex and funding the Peoples' Food Web

September 2026

Friends of the Earth United States

Credits & Acknowledgments:

Writing, research and editorial:
Jim Thomas, Stacy Malkan, Arianna Muirow, Jeff Conant
Project coordinators:
Zimyl Klatzker-Adler, Jeff Conant
Financial research and data visualizations:
Nikhil Feroze Ghosh, University of York, UK
Design: Studio Lake

This report is the product of much collective thinking. For critical input and contributions, we thank: Susan Alexander, Lisa Archer, Rohan John Antony, Jen Astone, Robin Averbeck, Shantell Bingham, Kyra Busch, Loren Cardeli, Paula Castro, Pedro Charbel, Kavya Chowdhry, Chantal Wei-Ying Clément, David Cooper, Steph Dowlen, Michael Farrelly, Shalmali Guttal, Mamadou Goïta, Kristen Graser, Douglas Hertzler, Taylor Hodge, Philip H. Howard, Nick Jacobs, Aleksandra Ola Janus, Navina Khanna, Emmaqulate Kemunto, Kendra Klein, Zimyl Klatzker-Adler, Andre Kpodonu, Lim Li Ching, Nele Marien, Gaurav Madan, Maria Luisa Mendonça, Carina Millstone, Daniel Moss, Pat Mooney, Renee Morgan, Sophia Murphy, Kevin O'Neal Smith, Raj Patel, Michel Pimbert, Tom Picken, Sunita Ramani, Katie Sandwell, Hope Shand, Jessica Siviero, Phoebe Stephens, Kariel Stuart, Merel Van der Mark, Mónica Vargas, Shiney Varghese, Veronica Villa, Kathy Jo Wetter, and countless other influences along the way for whom we are deeply grateful.

License

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

Disclaimer

All reasonable attempts have been made to verify the nature and status of the primary and secondary sources collected here in good faith and in the public interest. Any opinions expressed are honestly held and based on facts true at the time of publication.

Produced by Friends of the Earth United States, with support and endorsement by:

A GROWING CULTURE
actionaid
ADASINA SOCIAL CAPITAL
AFSA ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA
AMAZON WATCH
BANKTRACK
Rede Social de justiça e direitos humanos
FOOD RISE
LIFE LIBERATING INVESTMENT IN THE FOOD AND FARM ECOSYSTEM
RAINFOREST ACTION NETWORK
SEEDING REPARATIONS

Table of Contents

Executive Summary 07

Introduction 13

Part 01: Seeing the fragile and failing industrial food system for what it is 24

Intertwined Crises of the Agribusiness Financial Complex 38

Three Fundamental Flaws in the System 47

Palm Oil: The Grease of Empire 54

Industrial Soy and the Ecocide of the Cerrado and the Amazon 56

The Agribusiness Financial Complex in Historical Context 61

Concentration and Control by Corporate and Finance Giants 66

The Architecture of Debt 72

Conclusion: Abandoning the Agribusiness Titanic 77

Part II: Corporate giants in a failed food system 78

Meet the Agrifood 100 81

What the List Reveals – and Doesn't Reveal 90

Who Owns the Industrial Food System? 117

Conclusion: The Opacity Is the Point 119

Part III: Strengthening the peoples' food web 120

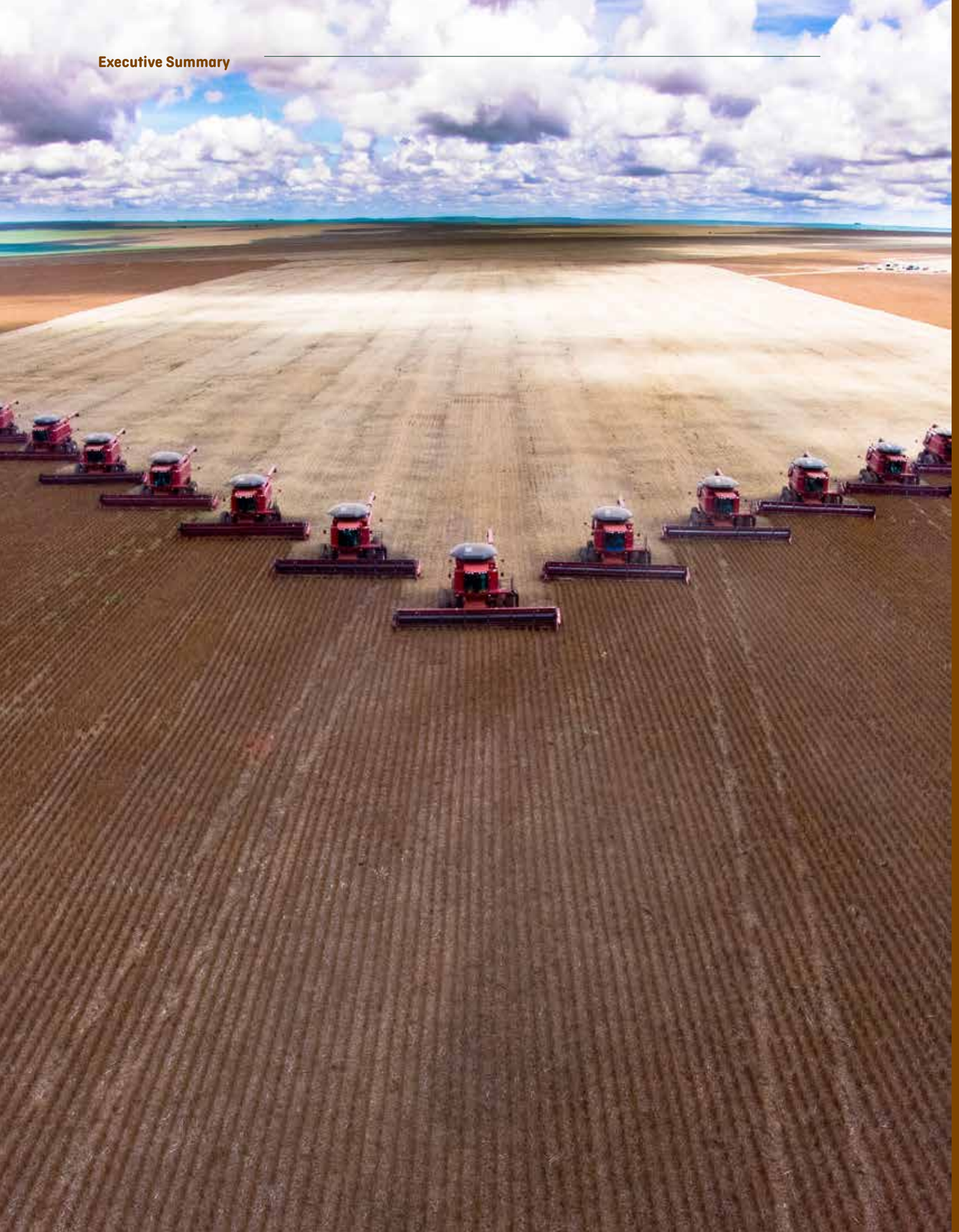
The Good News 123

Resourcing food sovereignty and agroecology 128

Seeds of transformation 132

Appendix: Glossary of Terms 134

Appendix: Methodology 146



Executive Summary

Food, Land & Money, co-published by a dozen civil society organizations, makes the case that the dominant industrial food system is not "broken," but rather, is doing exactly what it is designed to do: feed the concentration of wealth by massive corporate powers. And it is doing so at the cost of planetary destruction and profound social harm.

Key Findings

$4.5 Trillion

The amount of agrifood revenue generated by the Agrifood 100 in 2022 — with the top 10 alone, including Walmart, Cargill, Costco, Nestlé, and PepsiCo, accounting for 28% of that total.

22%

The share of the Agrifood 100 owned by just three asset managers — Vanguard, BlackRock, and State Street. Just 20 asset managers and one sovereign wealth fund control 41% of shares across the group.

$53.5 Billion

The amount just 20 grain, fertilizer, meat, and dairy companies paid to shareholders in 2021–2022 — more than the UN-estimated $51.5 billion it would cost to feed the world's 230 million most vulnerable people.

$22 Billion

The profit posted by Walmart, the world's largest agrifood company, in 2025 is $5 billion more than the World Food Programme needed to feed 110 million people that year.

It's retail and trading, not farming.

Over a third of the Agrifood 100 operate supermarkets, convenience stores, and wholesale outlets. This includes four of the top five largest corporations: Walmart, Schwarz Group, Kroger and Costco. Commodity traders — including the "ABCDs of Agribusiness": Archer Daniels Midland, Bunge, Cargill, COFCO, and Louis Dreyfus — are the next largest group. They generate substantial revenue from financial speculation rather than growing or moving food.

Financialization is at the heart of the issue.

Many critiques of industrial agriculture focus on singular aspects of the system: agrochemicals, factory farming, land concentration, deforestation, or corporate consolidation. While these issues are essential, and reforms are necessary in every aspect, they do not fully explain why harmful practices continue despite overwhelming evidence of their consequences. **Food, Land & Money** argues that financialization is the deeper structural force binding these crises together.

Additional critical patterns are essential to understanding the Agribusiness Financial Complex: Many of today's largest corporations accumulated power through historical processes rooted in colonialism, land dispossession, racial capitalism, and unequal access to capital. Today, public subsidies, tax incentives, and international financial institutions continue to reinforce this concentration rather than counter it.

A food system dominated by a handful of large-scale extractive corporations does not "feed the world," as the corporate logic claims — it feeds the concentration of wealth by the financiers, shareholders, and billionaire owners of the world's largest companies.

By identifying the 100 companies with the largest revenue across global food and agriculture (the "Agrifood 100"), as well as the dominant firms in several key sectors (the "Agrifood 100+") **Food, Land & Money** exposes the corporate concentration at the root of the food system's corruption. But behind the companies is a deeper layer: an entangled group of financial giants owns huge stakes in nearly all of the Agrifood 100+ companies. Together, this network of industrial agribusiness corporations and global financial institutions — banks, asset managers, investors, commodity futures brokers, amongst many others — shape land use and food production and policy according to the imperatives of profit, financial speculation, and shareholder value.

We call this the **Agribusiness Financial Complex**.

Climate shocks, the Strait of Hormuz shipping crisis, and soaring costs have pushed food security to the breaking point in many regions. This isn't a supply problem – it's a structural one, endemic to the Agribusiness Financial Complex and the logic that shapes land use and food production around shareholder returns rather than human need. Understanding — and confronting — the entirety of the Agribusiness Financial Complex is essential to any effort that seeks to build resilience into our food systems and to repair our relationship to land, forests, biodiversity, and one another.

Another Food System Already Exists

Despite the dominance of industrial agribusiness, most people worldwide, especially across the Global South, still get their food from outside the financialized industrial food system.

Across much of the world, small-scale farmers, Indigenous Peoples, pastoralists, fishers, forest communities, urban producers, cooperatives, and local food enterprises already sustain decentralized food systems grounded in reciprocity, biodiversity, community governance, and ecological stewardship. On all continents, social movements rooted in land, labor, and mutual solidarity are strengthening and rebuilding people-centered food system.

> **“ TELL NO LIES, CLAIM NO EASY VICTORIES.**
> **Amílcar Cabral, freedom fighter, Guinea-Bissau and Cape Verde**

The **Food, Land & Money** report uses the term **People's Food Web** to encompass a global vision that both centers peasant rights, livelihoods, and food sovereignty where these systems remain foundational while also recognizing the diverse movements working to uproot and transform industrialized food systems and build more democratic, equitable, and ecologically resilient alternatives. While these communities differ in their histories, cultures, and relationships to markets, they are united by many of the same structural challenges around corporate concentration, low prices, loss of autonomy, and policies that prioritize industrial agriculture over people-centered food systems.

Local and regional community-centered food systems already nourish much of the world's population while using a fraction of the resources consumed by industrial agribusiness. Yet they receive only a small share of public investment, research funding, policy support, and financial resources.

The challenge is therefore not to invent alternatives or to be misled by profit-driven “innovation,” but to redirect political attention and financial resources toward systems that already demonstrate greater resilience, equity, and ecological integrity.

Four Strategic Pathways for Transformation

Because the Agribusiness Financial Complex is maintained through interconnected political, financial, and cultural systems, meaningful transformation requires coordinated action across multiple fronts. **Food, Land & Money** proposes four mutually reinforcing strategic pathways:

1. **Discredit** the legitimacy of the Agribusiness Financial Complex by exposing its ecological failures, public health impacts, human rights abuses, economic fragility, and social license while challenging the dominant narrative that industrial agribusiness is necessary to feed the world.

2. **Defund** harmful industrial agribusiness by redirecting public subsidies, institutional investment, philanthropy, and private capital away from extractive corporations. Campaigns for divestment, stronger antitrust enforcement, windfall profit taxation, responsible procurement, and financial transparency are critical leverage points.
3. **Definancialize** food and land systems by removing the influence of speculative finance and restructuring public policy to treat food, land, and ecosystems as public goods rather than financial assets. This includes reshaping international financial institutions, debt regimes, taxation, competition policy, and development finance.
4. **Repair and Rebuild** through long-term support for agroecology, food sovereignty, Indigenous Peoples' leadership, community ownership, territorial markets, public food infrastructure, land reform, and reparative justice. Undoing centuries of harm requires dismantling systems of oppression while envisioning, constructing, and strengthening just and equitable provisioning pathways for the future.

Together, these strategies move beyond incremental reform toward structural transformation.

A Call to Action

Food systems transformation is essential to addressing climate change, biodiversity loss, public health, economic inequality, and democratic decline. Yet these crises cannot be solved while the financial architecture driving industrial agribusiness remains intact.

Food, Land & Money calls on civil society movements, farmers, workers, researchers, funders, policymakers, investors, and communities to expand their focus beyond individual corporations toward the financial systems that sustain them.

Transforming food systems requires reclaiming public resources for the public good, democratizing economic decision-making, strengthening community control over land and food, and investing in systems organized around care, reciprocity, and ecological regeneration rather than extraction.

The resources and solutions exist. Social movements around the world are demonstrating that another food system is not only possible — it has been here all along.

The task before us is to imagine that future and to organize the political power to bring it to life.

INTRODUCTION

It's time to dismantle the Agribusiness Financial Complex

In the wake of the 2020-2022 COVID pandemic, global food prices hit record highs,[2] nearly a billion people went hungry,[3] and the world's eight largest corporations involved in food retail and agribusiness made more than $1 trillion in sales.[4]

Today, as war and climate shocks disrupt global supply chains, it is likely that hunger will grow — as will the profits of the agribusiness and financial firms that dominate global food systems.

This stark inequality reveals that a food system dominated by a handful of large-scale extractive corporations does not "feed the world," as the corporate logic claims. It feeds the concentration of wealth by the financiers, shareholders, and billionaire owners of the world's largest companies. Founded upon centuries of forced and enslaved labor, colonial violence, and the systemic theft of land, industrial agribusiness continues to extract wealth through a dominant approach that prioritizes cash-crop commodities over food to nourish people.

TODAY'S CORPORATE AGRIBUSINESS MODEL IS NOT JUST FAILING TO FEED PEOPLE NOW, IT IS WORSENING HUNGER, DEPLETING SOIL, AND THREATENING THE FOOD WEBS WE ALL DEPEND ON FOR THE FUTURE.

It concentrates market control, land, and seeds into the hands of a few corporate giants who use their power to inflate prices and profits while forcing farmers and food workers to accept debt and poverty wages, making food unaffordable for many, and worsening health all around. By capturing government policies to rig the rules; prioritizing commodities over food; siphoning billions in taxpayer dollars to keep corporations afloat; creating complex financial products to speculate on crop failures, climate disasters, trade disputes, and wars; and then offloading the harms onto people and nature, the fusion of big agribusiness and big finance is undermining and dismantling food sovereignty and resilience.

Despite its rhetoric of efficiency, the system is so concentrated, centralized, and brittle that it deepens our vulnerability to the very crises it helps create. It devours vast resources: The industrial food and agriculture system may use as much as 70% of global agricultural land and resources, yet it feeds less than 30% of the world's population.[5]

The harms detailed in this report are often cited as symptoms of a broken food system. But as we will argue throughout this report, the globalized, financialized, industrialized food system is not "broken" — the failure to nourish us is baked in. The system wasn't built to feed people well, care for ecosystems, or uphold health, culture, or human rights. Those goals were never part of the agribusiness design, and they're still not.

Shaped over centuries by trade, development, and investment policies set by powerful interests, including at global financial institutions, this system works to extract wealth from land, labor, and public resources — including water, forests, and taxpayer money — and funnel it to distant corporations. Perverse logics of chasing government subsidies, high-yield financial returns, and shareholder value drive harmful decisions about what gets grown, where, and by whom, regardless of the ecological or human cost. For far too long, food systems have been controlled by destructive commercial regimes turning food, fuel, and fiber — as well as land and lives — into commodities for private profit, not public good.

> **COMMODITY TRADERS NOW EARN MORE FROM FINANCE THAN FROM MOVING GOODS.**
>
> **UN Trade and Development Report 2025**

The earliest colonial plantations were financial endeavors by private investors which treated land and human bodies as commodities to be bought and sold — it can be said that they **financialized** human lives (as slaves) and the lands they worked (as resource colonies). The rise of corporate power in this food system has been further fueled by contemporary forms of financialization: the growing influence of financial actors, markets, and profit motives across every facet of food and agriculture. The most recent United Nations Trade and Development Report estimates that fully 75% of the income of the large food traders now stems from financial activities such as issuing loans, designing and trading financial products, and speculating on food prices.[6] Speculative trading in agricultural commodities and the conversion of farmland into investment assets are just two examples of financialization that have accelerated corporate concentration and control.

We refer to this fusion of industrial agribusiness and global finance as the **Agribusiness Financial Complex**.

Global Agribusiness and Food System Financial Flows: An Overview

Most food-system finance reinforces industrial agribusiness. Far less reaches small-scale and agroecological alternatives.

01 Where the money comes from

PUBLIC FINANCE

Government subsidies, public lending, development finance, research funding

PRIVATE MONEY

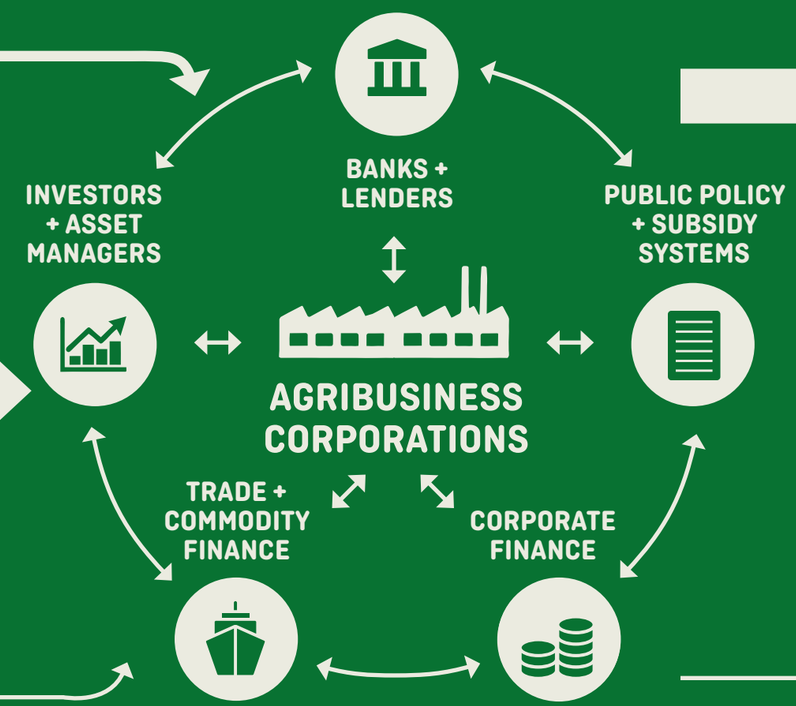
Banks, investors, private equity, corporate finance, corporate reinvestment

PHILANTHROPIC MONEY

Foundations, impact-first capital, NGO grants

02 The system that directs the money

Banks, investors, agribusiness corporations and government policy reinforce one another.



This interconnected system is the ARGRIBUSINESS FINANCIAL COMPLEX

03 Where the money goes

Most money supports INDUSTRIAL AGRIBUSINESS

Large-scale commodity production, Industrial inputs (seeds, chemicals, feed), Processing & manufacturing, Global trade & logistics, Large retailers & food corporations

Much less reaches PEOPLE-CENTERED FOOD SYSTEMS

Small-scale farmers, Agroecology, Cooperatives, Local & regional markets, Community-led systems, Indigenous food systems

TWO EXAMPLES OF THE IMBALANCE

$661B BILLION PER YEAR, ESTIMATED → **86%** of those subsidies support potentially environmentally harmful practices.

ONLY **0.8%** of agrifood climate finance reaches small-scale farmers.

IMPORTANT
These figures come from different pools of money and should not be compared directly. They illustrate the same broader pattern: finance is heavily weighted toward industrial systems.

Source note: Data are drawn from studies covering different years: Global Alliance for the Future of Food, Public Climate Finance for Food Systems Transformation: 2024 Update; and Climate Policy Initiative, The Climate Finance Gap for Small-Scale Agrifood Systems (2023).

Social movements and political leaders understand the toxic impact of the financialization of food and are calling for ambitious financial reforms to end hunger and preserve food and land resources.

But to change the future, we must first understand the system we've built — who is benefiting from it, who controls it, and why it isn't meeting our needs. To transform food systems to serve the needs of people, we must confront not just the largest corporations that benefit from the harmful agrifood system but the underlying **international financial architecture** itself — the global framework of institutions like the International Monetary Fund (IMF), the World Bank, and other multilateral finance institutions, as well as the policies, standards, and practices that govern international finance. Only then can we shift from a food system maintained narrowly for profit to one built for people and the planet.

The good news is, the agribusiness financial complex is not inevitable or even triumphant. Thankfully, most people worldwide, especially across the Global South, still get their food from outside the financialized industrial food system in what is sometimes referred to as **the peasant food web**. The term "peasant food web" refers to the small-scale food producers — often family- or women-led — including farmers, livestock keepers, pastoralists, hunters, gatherers, artisanal and traditional fishers, Indigenous peoples, and urban and peri-urban

food producers and vendors that continue to feed much of the world's population, particularly across the Global South. In many parts of the Global North, however, these systems exist only marginally alongside industrialized food systems.

We therefore use the broader term **Peoples' Food Web** to describe a global vision that both centers peasant rights, livelihoods, and food sovereignty where these systems remain foundational, and embraces the diverse movements working to uproot and transform industrialized food systems. These movements comprise agroecological and truly regenerative production; family-scale organic farming; food hubs, territorial, and regional markets; farm-to-institution procurement; Indigenous food systems; Community Supported Agriculture; and other democratic, community-based approaches to producing and distributing food.

Surprising as it may seem, we live in a moment of hopeful food system revolution. Around the world, people are rebuilding food systems to strengthen a Peoples' Food Web grounded in sovereignty, sustainability, and justice. Movements for **food sovereignty**, **agroecology**, land rights, and local food economies are gaining ground, revitalizing territorial markets, influencing public procurement, and delivering real alternatives. Organizers and advocates for finance reform are working to build political power and redirect billions in public and philanthropic funding toward food commons, cooperatives, land trusts, local food hubs, small- and mid-sized businesses and public food infrastructure. Many of these growing efforts are rooted in a vision of a **just transition for food systems.**

> **"CORPORATE POWER IN FOOD SYSTEMS IS HIGHLY CONCENTRATED, ALLOWING A RELATIVELY SMALL GROUP OF PEOPLE TO SHAPE FOOD SYSTEMS IN A WAY THAT SERVES THE ULTIMATE GOAL OF PROFIT MAXIMIZATION INSTEAD OF THE PUBLIC GOOD.**
>
> **Corporate Power and Human Rights in Food Systems, Report of the UN Special Rapporteur on the Right to Food, 2025[8]**

Many solutions are at hand, but scaling up these solutions is not enough. We must directly challenge both the public and private financial flows that prop up the agribusiness financial complex and the economic structures, including the hundreds of billions in government subsidies that distort global food systems into vehicles to unjustly concentrate wealth and power. Until those dynamics are broken, billions of people will continue to go without access to healthy food, and the land, water, biodiversity, and climate that we depend on will continue to be devastated. We argue that this underlying **financialization** is the root problem behind the extractive, exploitative, and toxic nature of the practices we seek to overturn.

Image: Sprawling dairy farm near Gila Bend, AZ, United States (via Pexels)

This report calls on social movements to examine and confront the deeper forces driving the food system's dysfunction, rooted in the **Agribusiness Financial Complex,** and to craft strategic campaigns to drive a just transition toward food systems and approaches to land and labor based on the principles of food sovereignty and agroecology, collective rights, and diverse ways of knowing and being.

> **"ELEVATED INFLATION IN MANY COUNTRIES HAS UNDERMINED PURCHASING POWER AND, ESPECIALLY AMONG LOW-INCOME POPULATIONS, ACCESS TO HEALTHY DIETS.**
>
> **The State of Food Security and Nutrition in the World 2025[9]**

In Part 1, we document the harms and fragilities of financialized industrial food systems: the rising health, ecological, and social costs; human rights and animal abuses; and structural troubles that signal the frailty of the corporate agribusiness model. The mounting consequences of financializing the food system are now impossible to ignore as industrial food systems are cracking under the weight of exploitation and instability. Frontline communities, farmers, workers, and Indigenous people are sounding the alarm, as are scientists and public health experts.

In Part 2, we share new research we call the "Agrifood 100": the 100 largest companies of the agribusiness system (ranked by agrifood-related revenue). Many of these companies now dominate whole sectors of the agrifood chain, and sometimes multiple sectors. Their size and power allow them to lock in harmful practices and technologies that drive short-term profits while making the system vulnerable to shocks. In addition, we look at the shareholders and banks that underwrite the industrial food system. Collectively, these agrifood and financial firms, some with revenues larger than national budgets, don't just control the industrial food system, they are the system.

In Part 3, we present the essential elements of a way forward based on a vision of a just transition to a reparative, agroecological future.

At the end of this report, a lengthy Glossary of Terms gives in-depth definitions of the terminology used here. Throughout the report, the first few instances of terms found in the glossary are in **bold text**. An appendix at the end of the report details the methodology used to develop the Agrifood 100 list.

Four interrelated strategies for change

Reform is necessary in all facets of food and finance. But a just transition for food and farming systems requires going beyond activities aimed at reducing harm or improving corporate social responsibility. It requires a **whole systems approach**. It requires systemic and strategic action of naming, disrupting, dismantling, and reorienting away from the Agribusiness Financial Complex.

By directly acknowledging and confronting the funding of industrial agribusiness (how money flows into this destructive system) as well as the underlying financialization of the system (how financial actors have restructured food systems to their own ends), we can ground a more transformative response. This transition requires not only challenging corporate power, but redirecting public and private funding, research, and public education to strengthen territorial agroecological food webs where they remain the foundation of food security. And it requires accelerating the transition of industrialized food systems toward regionalized, democratic, and ecologically resilient food systems organized to feed people rather than distant financial interests.

This report attempts to name aspects of each pathway but focuses on the first part: exposing the frailties, harms, and failures of the Agribusiness Financial Complex and rejecting its social license.

This report calls on movements to examine and confront the deeper forces driving the global food system's dysfunction, rooted in the **Agribusiness Financial Complex.**

This is a call to all of us — activists, donors, investors, researchers, policymakers, farmers, food workers, communities, entrepreneurs, and eaters — to develop and practice these approaches to tackling the deeper dysfunctions of our food system, especially those rooted in financial flows, even as we work to lessen its immediate harms. We all depend on our food system, and we all have a role to play in transforming it.

By first naming and critiquing the Agribusiness Financial Complex, we can begin to disrupt and dismantle it and to nurture in its place resilient, just, and life-giving food webs that support our communities and enable future generations to survive and thrive.

Four interrelated strategic approaches are needed to confront the Agribusiness Financial Complex

1. **Discredit:** Expose the frailties, harms, and failures of the Agribusiness Financial Complex and reject its credibility, authority, and social license to shape policy and capture public resources. This is the domain of challenging and shifting narratives.
2. **Defund**: Phase out and cut off public, private, and philanthropic financial support for harmfu industrial agribusiness activities through a range of efforts already underway, including boycott and divestment campaigns, changxqing tax and subsidy regimes, anti-trust legislation, blocking loans, and similar tactics that need more attention and support. This is the domain of strategic finance activism.
3. **Definancialize**: Remove the influence of speculative finance and extractive investment from food and land systems and reshape government policies to steer resources away from serving the big finance and industrial food sectors toward public good. This requires reasserting food and land as public goods protected by ecological practices and a human rights framework. This is the domain of policy advocacy at local, national and international levels.
4. **Repair and rebuild:** Undoing centuries of harm requires dismantling systems of oppression while also envisioning, constructing, and strengthening just and equitable provisioning pathways for the future. This is the domain of community-led food and resource sovereignty, strengthening territorial markets and knowledge systems, and policy advocacy to redirect resources to just, agroecological, food and land tenure systems and reparative justice.[7] To repair and rebuild on the scale commensurate to the historic harms requires thinking — and acting — generationally. In a word, this is the domain of **reparations**.

> **NO SAFE SOLUTION TO CLIMATE AND BIODIVERSITY CRISES IS POSSIBLE WITHOUT A GLOBAL FOOD SYSTEMS TRANSFORMATION. EVEN IF A GLOBAL ENERGY TRANSITION AWAY FROM FOSSIL FUELS OCCURS, FOOD SYSTEMS WILL CAUSE THE WORLD TO BREACH THE PARIS CLIMATE AGREEMENT OF LIMITING GLOBAL MEAN SURFACE TEMPERATURE TO 1.5°C.**
>
> **EAT-Lancet Report, 2025[10]**

PART I

Seeing the fragile and failing industrial food system for what it is

The global food system today is a stark reflection of the world's deepening and intertwined crises of inequality and ecological collapse. A food system dominated by a handful of large-scale extractive corporations does not "feed the world," as the corporate logic claims — it feeds the concentration of wealth by the financiers, shareholders, and billionaire owners of the world's largest companies.

Section at a glance:

- There are two competing logics about the purpose of food, land, and farming: an industrial logic rooted in commodity production and profit and a people-centered logic that views food systems as a public good and a form of care that sustains people, biodiversity, and future generations.
- Aligned with these competing logics, there are two economies: the "real" economy that people experience in daily life through the creation and exchange of labor, goods, and services, and the "financialized" economy where money makes money through financial assets and speculative activities such as stock trading and commodity futures markets.
- The industrial food system faces a long rap sheet of intersecting harmful impacts, including: 1) It is fundamentally extractive, 2) it creates systemic risk and fragility, and 3) it concentrates power, destroys democracy, and undermines community rights.
- The industrial food system was historically constructed to enrich financiers, not to feed people or steward the environment. It is still doing that and becoming increasingly financialized. Therefore, we refer to the whole system as the "Agribusiness Financial Complex."
- Underlying and supporting the Agribusiness Financial Complex is an international financial architecture designed to impose debt and austerity at the expense of ecological and social well-being.
- Most peoples throughout human history have seen themselves as part of the web of life and have produced food in ways that recognize and honor these relationships. The emergence of financialized industrial agribusiness reshaped food systems as a source of profit. Yet across the centuries, Indigenous peoples, peasants, pastoralists, fishers, farmworkers, and communities around the world have defended and rebuilt food systems that nourish people while protecting ecosystems, territories, and cultural traditions. Today, they are joined by growing movements of consumers, researchers, health advocates, environmental organizations, local governments, and food system practitioners working to transform industrial food systems toward greater equity, resilience, and ecological integrity.

The dominant industrial food system is not just harmful and unfair, it is surprisingly and dangerously fragile.

Agribusiness Financial Complex: The entangled system of industrial agribusiness and global finance that steers food production toward maximizing profit, not feeding people.

Unlike small- and mid-scale diversified production managed by local producers, industrial monocrops beholden to remote financial interests are inherently vulnerable to catastrophic failure. From rising hunger and malnutrition to rising temperatures and inequality; from human rights abuses to collapsing biodiversity; from alarming spikes in chronic disease to floods, fires, and forced migration; the financialized and industrialized food system is failing us morally, socially, structurally, and ecologically. Farmers, food workers, and communities on the front lines are experiencing ongoing harms as ecosystems falter, and they are sounding the alarm. So are Indigenous leaders, women, environmental and public health scientists, and food security experts who are tracking decades of evidence that make a case that is now too strong to ignore.

Competing food system logics

At the heart of today's food system crisis are two fundamentally different and competing logics about the purpose of food, land, and farming. One views food systems as a public good: essential to human health, ecological integrity, cultural identity, and community well-being. Under this logic, land is understood as a living system to be stewarded rather than exploited; farming is recognized not merely as an economic activity but as a form of care that sustains people, biodiversity, and future generations; and food is treated as a human right rather than simply a commodity.

The competing logic treats food, land, labor, seeds, and ecosystems primarily as assets for generating profit and accumulating capital. Success is measured by productivity, efficiency, and financial returns, even when these come at the expense of ecological resilience, farmer livelihoods, public health, or democratic control over food systems.

The greatest myth perpetuated by the industrial food system is that it is both inevitable and indispensable. In reality, alternative food systems not only exist — they already feed most of the world.[11] Around the globe, millions of small-scale farmers, Indigenous Peoples, pastoralists, artisanal fishers, forest-dependent communities, and urban growers sustain food systems rooted in reciprocity, local knowledge, biodiversity, and care.

Largely in the Global South, small-scale farmers, Indigenous communities, pastoralists, urban growers, and fishers form what ETC Group calls the "peasant food web." This decentralized, biodiverse system feeds up to 70-80% of the world's population using less than 30% of the agricultural resources.[12] Rather than depending on industrial inputs and extraction, these systems rely on relationships among people, land, seeds, ecosystems, and communities. Yet despite their outsized contribution to global food security, they receive only a fraction of public investment while industrial agriculture continues to benefit from policies, subsidies, and research agendas that reinforce corporate control over land, water, agrochemicals, and food markets.

In the Global North, where industrial food systems have become deeply entrenched, a public-good logic is re-emerging through efforts to rebuild relationships between people, place, and food. Across cities and rural communities, farmers, Indigenous Nations, food policy councils, cooperatives, community-supported agriculture initiatives, and family-scale organic farming are rebuilding food systems around principles of stewardship, equity, and public value.

These efforts recognize that food and farming generate value beyond their market price: they sustain rural communities, protect biodiversity, build healthy soils, support public health, and strengthen resilience in the face of climate change.

The Peoples' Food Web

We use the term Peoples' Food Web to encompass a global vision that both centers peasant rights, livelihoods, and food sovereignty where these systems remain foundational while also recognizing the diverse movements working to uproot and transform industrialized food systems and build more democratic, equitable, and ecologically resilient alternatives. While these communities differ in their histories, cultures, and relationships to markets, they are united by many of the same structural challenges around corporate concentration, low prices, loss of autonomy, and policies that prioritize industrial agriculture over people-centered food systems.

The central question is not whether alternatives to industrial agriculture are possible — they already exist and sustain billions of people. The real question is whether societies will choose to recognize, protect, and invest in the systems that already nourish people and ecosystems — and build the conditions for them to thrive at greater scale.

How the UN defines the term "peasant"

This report uses the terms "food web," "peasant food web," or "peoples' food web" to describe the small-scale food producers, usually family- or women-led, that include farmers,a livestock-keepers, pastoralists, hunters, gatherers, artisanal and traditional fishers, Indigenous peoples, and urban and peri-urban food producers and vendors. Our definition includes not only those who control their own production resources but also those who work for others to produce and supply food – and who have often been dispossessed of their land. Depending on season and opportunity, peasant farmers may also be fishers or pastoralists, as well as hunters and gatherers, and urban peasants may have fish ponds and small livestock, as well as outside employment. Peasants may move back and forth between food production and urban jobs for environmental and socio-economic reasons, or be forced to migrate far from the lands they know.

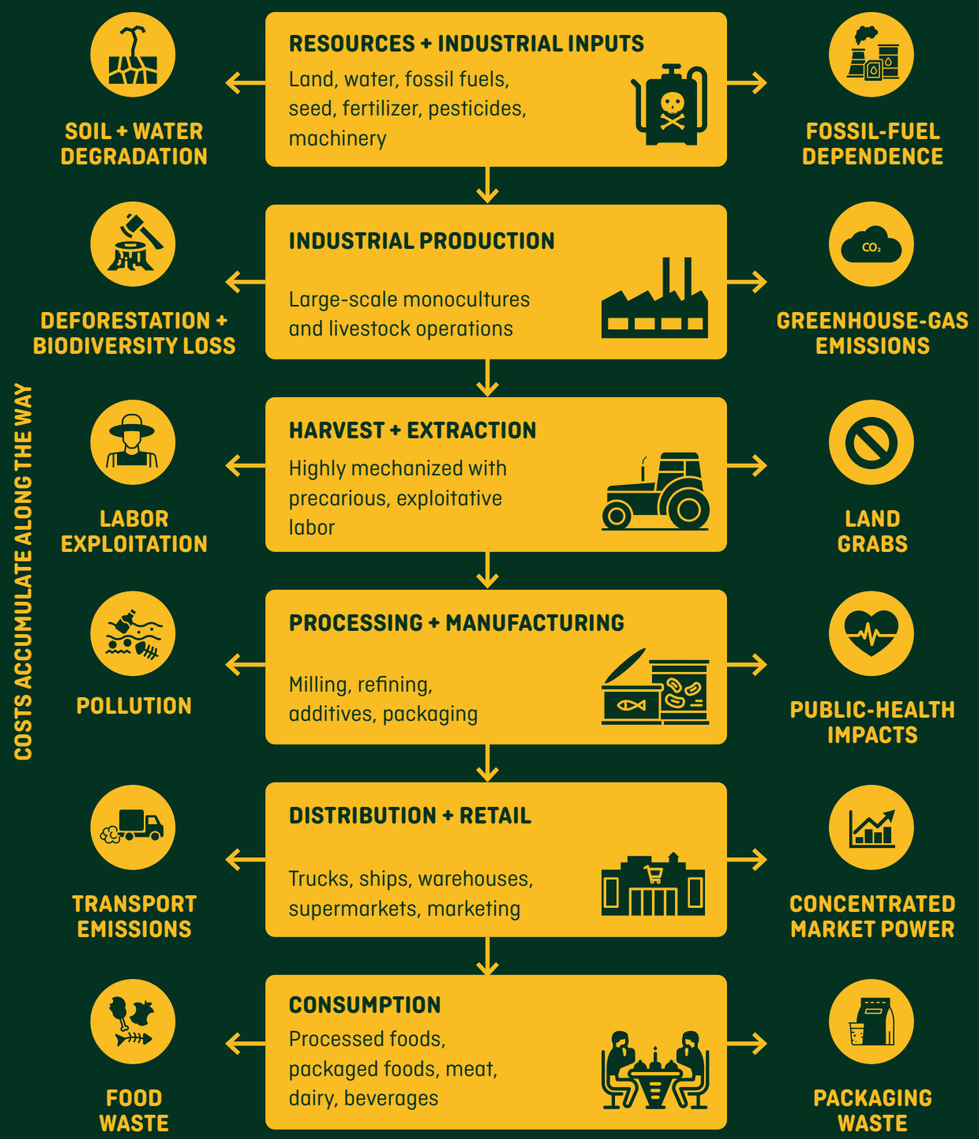
It is important to remember that peasants are by no means always self-sufficient and sometimes purchase food from the industrialized agrifood system, and that the reverse is also true. They may or may not grow all their own food, trade with neighbors, and sell the surplus in local markets. While growing all they can under difficult conditions, peasant farmers remain resilient in spite of the challenging and unjust economic terrain placing undue pressure on their own households. An important dimension of the "peasant food web" is the collective nature of agricultural practices which often underlies a collective sense of identity. Many peasant communities also hold multiple identities: Indigenous, Afro-descendent, Maroon, quilombolo, or other historical cultural and ethnic designations. No single word adequately describes the range of peoples and livelihoods encompassed by the peasant web.

In 2018, the UN adopted the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP). The declaration takes a broad, rights-based definition of a "peasant" that differs from the term's traditional historical connotations. Rather than referring to social class or economic status, UNDROP defines a peasant as any person engaged, or seeking to engage, in small-scale agricultural production for subsistence and/or the market, who relies significantly on family or household labor and maintains a special dependency on and attachment to the land.

The broad definition of "peasant" in UNDROP is significant because it provides an inclusive, rights-based framework that recognizes the diversity of rural livelihoods while fostering solidarity among groups facing common challenges related to land, natural resources, labor, and food systems. The Declaration strengthens the ability of social movements to advocate collectively for equitable access to resources, participation in governance, and the realization of food sovereignty.

The Industrial Food System

LINEAR · EXTRACTIVE · POLLUTING



Value is extracted at every step. Costs are externalized.
Communities and ecosystems pay the price.

The Living Food Web

CYCLICAL · ECOLOGICAL · RESILIENT

Value is created at every step. Costs are internalized.
Communities and ecosystems can thrive.

A Just Transition to a People-Centered Food System [13]

Building a People's Food Web requires not only transforming how food is produced but ensuring that the transition is fair and inclusive for the people whose lives and livelihoods are tied to food systems. Movements for food and land justice necessarily maintain a diversity of views on how to frame the transition. Here is one set of basic principles:

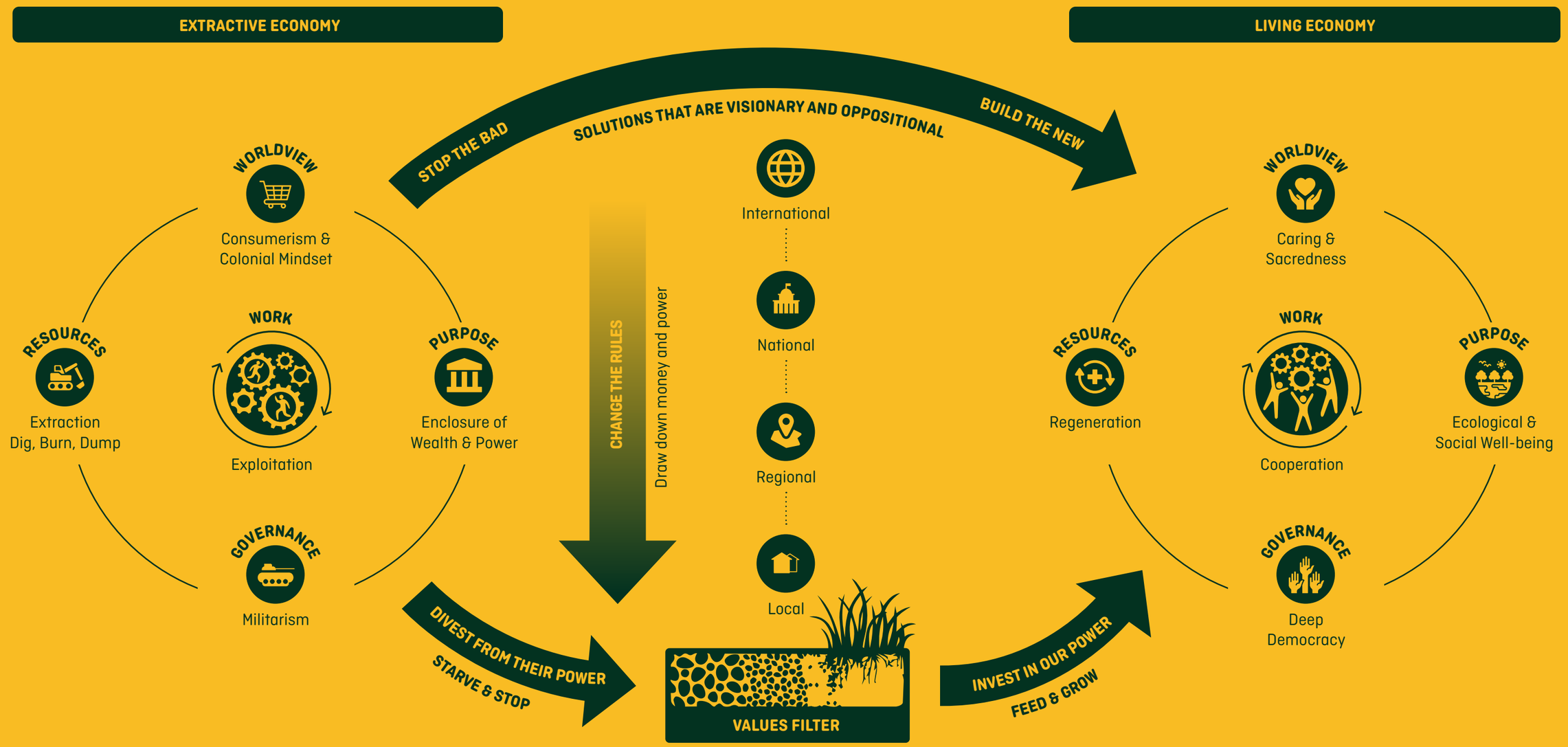
Principles for a Just Transition in Agriculture by ActionAid (2019):

"The transformation of food systems towards agroecological approaches that work for people and nature must be done in a way that works for farmers, farm workers, processors and marginalized communities, including low-income urban consumers. It must provide them with the support, safety nets and social protection required to make these shifts, and to improve working conditions and livelihoods. A just transition in agriculture must address – and not exacerbate – injustices.

"The term 'just transition' does not only define WHAT the new system will look like, but it also defines HOW that transformation is carried out. A just transition must be genuinely inclusive and participatory. It must identify key actors, particularly those that are marginalized and ignored such as women farmers. Farmers, workers and communities must be given a seat at the table and opportunities to shape their own future." [14]

Smallholder farmers, legal advocates, and civil society organizations challenged the constitutionality of Kenya's Seed and Plant Varieties Act at the landmark Seed Litigation Hearing at the High Court in Machakos, Kenya in 2025. Credit: Dennis Sang, Greenpeace.

A Strategy Framework for a Just Transition



A JUST TRANSITION MUST

- Drive racial justice and social equity
- Shift economic control to communities
- Democratize wealth and the workplace
- Advance ecological restoration
- Relocalize most production and consumption
- Retain and restore cultures and traditions

Source: Movement Generation Justice & Ecology Project with Climate Justice Alliance. Design by Micah Bazant.

The Politics of Measuring Hunger

At the opening of this report, we cited a World Health Organization statistic: In 2022, "nearly a billion people went hungry."[15] Here, we pause to ask what this means.

Hunger, obviously, is real — and the fact that so many go hungry in a world so rich in resources is one of the moral failings of our current global systems. But with this understanding we must also be aware of what we measure when we measure hunger. There are many factors to consider, and as one study puts it, how we count hunger matters.[16]

While the figures published by powerful institutions are often projected as definitive, infallible, hard facts, measurements of hunger are shaped by the intentions of the institutions measuring it — and the methods they use determine both our perceptions of hunger and our ways of addressing it.

Too often, these institutions present hunger in a vacuum, divorced from nature and from other forms of human suffering. This approach frequently places blame on farmers and traditional agricultural practices, branding them as inefficient, technologically outdated, and incapable of meeting the needs of a hungry world. In contrast, powerful institutions and corporations are often depicted as saviors. Their policies and technologies are positioned as the exclusive solutions for ending hunger, and our salvation (or our starvation) lies solely in their hands.

Most dominant approaches to measuring and addressing hunger treat it as an unfortunate consequence of a system that is otherwise functioning well. But what would it mean to recognize that hunger is not a marginal failure at the edges of the global food system, but a central contradiction within it? Rather than viewing hunger as a distant problem affecting others, we might ask what it reveals about the systems that shape all of our relationships to food, security, and well-being.

THE CENTRAL CHALLENGE FACING THE WORLD TODAY IS NOT ONE OF PRODUCING ENOUGH FOOD; GLOBALLY, WE PRODUCE ENOUGH CALORIES TO FEED THE WORLD'S POPULATION. THE CHALLENGE IS ENSURING THAT FOOD REACHES PEOPLE IN WAYS THAT ARE EQUITABLE, SUSTAINABLE, AND RESILIENT.

What if we measured hunger not only as a question of scarcity, but as a question of distribution, power, and priorities? What if we examined not just whether enough food exists, but who controls it, who can access it, and whose needs are prioritized? Addressing hunger requires moving beyond the narrow question of how to produce more food and toward the deeper question of how to organize food systems so that abundance serves everyone.[17]

The Intertwined Crises of the Agribusiness Financial Complex

After centuries of extraction and expansion, accompanied by centuries of resistance and refusal by affected peoples, industrial agribusiness faces a long rap sheet of intersecting harms. The evidence makes it clear: Systemic change is not optional — it is an imperative for survival. Consider the intertwined crises brought on by the Agribusiness Financial Complex, as it:

Disrupts Earth's life-support systems

We have already crossed seven of the nine planetary boundaries — the scientifically established thresholds beyond which Earth's systems become unstable. These are climate change, biosphere integrity, land system change, freshwater change, chemical flows, ocean acidification, and novel entities including pesticides and other pollutants. In each case, industrial agribusiness is a leading contributor to the instability.[18] Research — and experience — shows that violating ecological integrity also violates human rights norms and principles of justice and equity.[19]

Credit: "Azote for Stockholm Resilience Centre, based on analysis in Richardson et al. 2023"

Drives hunger

Despite record production of commodity crops, the world is far from eradicating hunger:[20] Nearly 10% of the world's people, and 1 in 5 in Africa, went hungry in 2023.[21] Someone dies from lack of food every four seconds.[22] Hunger today is not caused by scarcity or lack of production but by a financialized food system that puts profit-making over people's needs. Vast harvests are wasted or diverted to fuels, animal feed, or nutritionally empty ultra-processed food, while millions face food insecurity.

Fuels chronic disease

Ultra-processed food consumption has surged over the past 20 years and now accounts for more than half the calories people consume in industrialized countries (and more for children). Foods made with chemical additives and empty ingredients from cheap commodity crops are driving the rise in obesity, diabetes, heart disease, and cancer, and they are a leading cause of early death.[23] The massive and growing use of synthetic pesticides is also driving skyrocketing rates of health harms: Mounting research links chronic pesticide exposures to cancer,[24] neurological disorders,[25] neurodegenerative diseases like Parkinson's, male and female infertility,[26] endocrine disruption which can increase risk of obesity, diabetes, immune problems, and more.[27] Toxic exposures, debt, and an entire complex of stressors drive depression and suicide,[28] particularly among farmers, farmworkers, and rural communities.

Accelerates deforestation, ecosystem destruction, and biodiversity collapse

Industrial agriculture is the leading cause of tropical deforestation, fueled by global production of beef, soy, palm oil, cocoa, and other commodities.[29] Forests are felled to make way for vast plantations and cattle pastures, releasing huge amounts of carbon, destroying critical wildlife habitat, and devastating Indigenous and local communities. Across the planet, this model of production now threatens 86% of species at risk of extinction.[30] Insects, including bees and other pollinators which are foundational to nearly all ecological food webs and essential for growing food, are disappearing at alarming rates due to pesticides, habitat loss, and climate stress.[31] Industrial fisheries and, increasingly, industrial aquaculture,[32] are destroying marine ecosystems around the world.

Exploits farmers and food chain workers

Across the global food system, corporations keep profits high by driving down the cost of labor. Concentration of corporate power has squeezed small and mid-size farmers — lowering their incomes and limiting their choices, access to land, and ability to survive economically.[33] The system's reliance on agrochemicals exposes them to significant health hazards and environmental damage. Many farm and food chain workers are forced to work

long hours, paid less than a living wage, and denied basic protections from health hazards, harassment, and abuse — especially migrant workers and women.[34,35] For instance, 60% of the global cocoa supply comes from Côte d'Ivoire and Ghana, where more than 1.5 million children work on cocoa farms.[36]

Locks in dangerous pesticide exposures

Pesticide use has doubled worldwide over the past 25 years, reflecting a system that is locked into chemical dependence.[37] Pesticides also drive biodiversity loss, contaminate soil and drinking water, and create pest resistance that demands ever-higher chemical use — a classic case of diminishing returns.[38]

Locks in use of destructive synthetic fertilizers

The widespread use of synthetic nitrogen fertilizer in industrial agriculture threatens the climate, destroys biodiversity, and harms human health. From production to transportation to application, nitrogen fertilizer is associated with significant GHG emissions.[39] Nitrogen runoff harms freshwater ecosystems and leads to catastrophic aquatic "dead zones" around the world.[40] Synthetic fertilizers also harm soil life, which can lead to a decline in soil organic matter and degradation of soil structure.[41,42] Fertilizer use is a major source of nitrate pollution in drinking water, which has been linked to cancer, thyroid disease, and neural tube defects, among other health issues.[43]

Worsens climate disruption, weakens resilience

The industrial food system is a major driver of the climate crisis, responsible for about one third of global greenhouse gas emissions.[44] The biggest sources are synthetic fertilizers, methane from factory-farmed livestock, and deforestation to make way for commodity crops like soy, palm oil, and corn.[45] Dependence on petrochemicals for synthetic inputs makes the system profoundly vulnerable to trade and economic shocks, as the war in Iran has made brutally clear.[46] At the same time, the system's dependence on monocultures to grow commodities makes farming itself more vulnerable to droughts, floods, and pests as the climate becomes more unstable.[47]

Destroys soil and water

Industrial farming depletes the very foundations of food production. Each year, about 24 billion tons of fertile soil are lost to erosion and compaction caused by industrial monocultures, overgrazing, and chemical contamination.[48] At this pace, scientists warn that up to 95% of Earth's land could degrade by 2050.[49] Factory farms pollute air and groundwater with animal waste, spreading respiratory disease and poisoning nearby communities.[50]

Expands its power with land and water grabs through violence

Land grabs, corruption, and violence are the historical basis by which the world's elite powers have gained their wealth – and they are still the methods used to expand corporate power and keep profits high. Around the world, Indigenous and rural communities are displaced to make way for industrial plantations, cattle ranches, and industrial aquaculture projects.[51] The struggle to defend land and forests has turned deadly: More than 2,000 land and environment defenders were murdered in the decade between 2012 and 2022.[52,53]

Abuses animals and exacerbates risk of pandemics and disease

Factory farms and industrial aquaculture facilities confine billions of animals in crowded, unsanitary conditions that cause extreme suffering and generate enormous amounts of waste and air and water pollution. The routine use of antibiotics breeds drug-resistant superbugs, and the same conditions that maximize production also create the conditions for new infectious diseases, heightening the risk of pandemics.[54]

WE ARE PUSHING MANY ECOSYSTEMS BEYOND RECOVERY ... ACTION TO SAVE INSECT SPECIES IS URGENT, FOR BOTH ECOSYSTEMS AND HUMAN SURVIVAL.

Scientists' Warning to Humanity on Insect Extinctions[55]

Methane

Methane is a highly potent greenhouse gas that increases global temperature. About 60% of annual methane emissions originate from human activities, mostly from agriculture, with the livestock sector being the greatest contributor.[56]

New data shows a small number of meat and dairy giants are responsible for more methane emissions than the EU and the UK combined. The top five emitters combined — JBS, Marfrig, Tyson, Minerva, and Cargill — emitted more methane in 2023 than each of the oil giants Chevron, Shell, or BP.[57]

The U.S. Food System: A Model Not to Follow

The U.S. food system is often praised for its efficiency, but that's an illusion. Look closer and we see that it's propped up by more than $10 billion a year in direct federal subsidies and a calculated $2 trillion+ of indirect subsidies.[58] Most direct subsidies go to large-scale producers of just two crops — corn and soy — that are mostly used for livestock feed, biofuels, or cheap processed food ingredients.[59] The result is highly concentrated food production and a food supply dominated by factory-farmed meat and dairy, with uneven access to healthy minimally-processed or whole foods like fruits, vegetables, and legumes, and where 73% of calories come from ultra-processed foods with severe health consequences:

- 1 in 5 U.S. American children are obese — a 270% increase since the 1970s.[60]
- 6 in 10 U.S. American adults live with at least one chronic disease.[61]
- People living in communities with pesticide-intensive agricultural production face cancer risks comparable to smokers.[62]
- Despite being one of the world's wealthiest nations, over 18 million households were reported food insecure in 2024.[63]

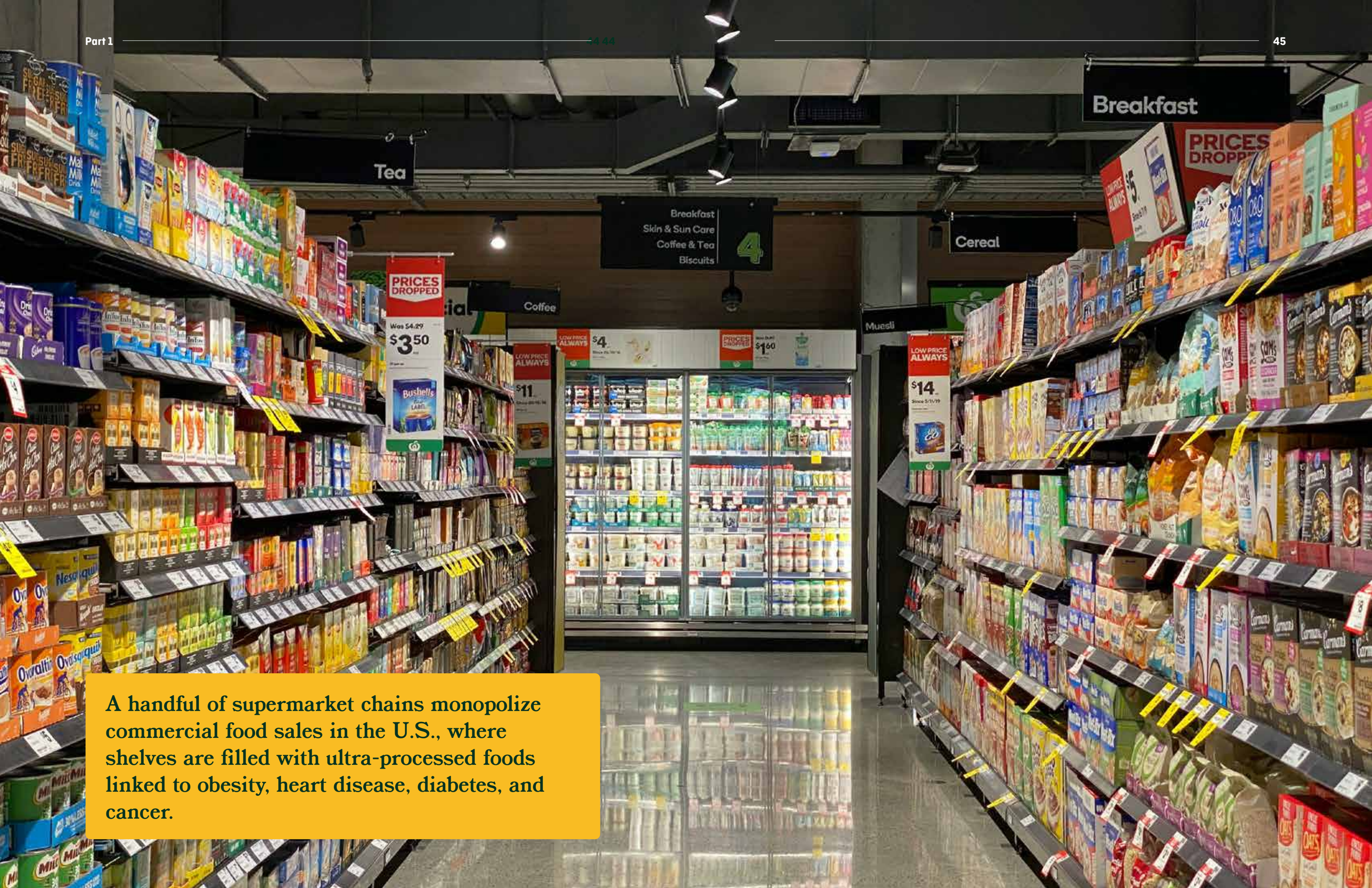
The environmental toll is equally dire: Waterways polluted by agrichemical runoff throughout the Midwest pose dire public health risks,[64] soil is degrading at an alarming rate,[65] and pollinators are dying in record-breaking numbers,[66] threatening future food production.

Despite record profits, the system exploits its own workers. Eight of the 10 lowest-paid U.S. jobs are in the food sector.[67] Frontline food chain workers face among the highest levels of food insecurity of any U.S. workforce. Surveys show that up to 93% of food chain workers experience some level of food insecurity, and roughly 60% are forced to rely on public assistance to feed their families.[68]

Lobbying for the status quo: In 2024, agribusiness spent $179 million lobbying the U.S. government,[69] mostly for policies that favor corporate interests, support chemical-intensive commodity crop farming, and keep the current system entrenched.

Source: U.S. EPA.

Image: Aerial view of Rosendale Dairy, a CAFO (concentrated animal feeding operation) in Rosendale, Wisconsin via Unsplash. Dairy manure is the largest source of methane from livestock manure management in the U.S.



A handful of supermarket chains monopolize commercial food sales in the U.S., where shelves are filled with ultra-processed foods linked to obesity, heart disease, diabetes, and cancer.

Three fundamental flaws in the system

> **THE SUSTAINABLE DEVELOPMENT GOALS ARE DRIFTING FURTHER AWAY BY THE DAY. EVEN THE MOST FUNDAMENTAL GOALS ON HUNGER AND POVERTY HAVE GONE INTO REVERSE ... IT IS CLEAR THAT THE INTERNATIONAL FINANCIAL ARCHITECTURE HAS FAILED IN ITS MISSION TO PROVIDE A GLOBAL SAFETY NET FOR DEVELOPING COUNTRIES.**
>
> **UN Secretary-General António Guterres[70]**

The Agribusiness Financial Complex is not just harmful — it is a proven failure. A system that deepens hunger, destroys the ecosystems we need to grow food, exploits workers, fuels violence, and spreads disease, while funneling money and power to corporate oligarchs cannot claim legitimacy. That's why experts across the world are calling for a new model for resourcing and structuring food systems.[71]

The many problems of today's industrial agribusiness system are not bugs. They are features of a system working as it was designed to — maximizing growth, efficiency, uniformity, and corporate profits while offloading harms. The system wasn't built to feed people well, care for ecosystems, or uphold health, culture, or human rights. Those goals were never part of the design, and they're still not. Realizing profit for financier-owners and global corporations remains the dominant priority. A fair and functional food system must engage with the complexity of human needs, cultural diversity, and ecological limits. But that will never be achieved by a system designed only to enrich itself.

Three fundamental dynamics explain why the financialized industrial agribusiness system cannot fulfill the basic human goal of feeding people nourishing food. These flaws are structural and inherent.

1. The system is fundamentally extractive and exploitative

From colonial plantations to today's industrial monocultures, industrial agribusiness has always been organized to extract value — from people, land, water, and public systems — and externalize its costs onto society. The UN FAO estimates that the current hidden costs of the food system, including pollution, disease, hunger, and poverty, are as high as $12 trillion annually, nearly 10% of global GDP. For every dollar of food sold, two more are spent cleaning up the damage.[72] Even food itself is hollowed out: Nutritionally poor ingredients are processed and marketed for profit, not health. Behind it all, financial investors pressure companies to cut corners and extract more value from every step of the chain. Even those whose intentions may be to serve the public good, such as public pension funds and philanthropic endowments, are complicit in this extractive logic. In order to grow the returns on investment required to fulfill their business mandates, even the most well-intentioned philanthropies are generally core contributors to the equities markets and commodity index funds that encourage exploitative and harmful practices.

Extractive economies, by definition, depend on hierarchy and domination; they require some classes of people and regions of the world to be subjugated, exploited, or sacrificed so that wealth can be concentrated elsewhere. The same logic that once justified plantation slavery and colonial plunder now drives modern land grabs, debt traps, and technological dependencies that concentrate control in corporate hands. This extractive logic extends across the food chain.

Monocultures and factory farms treat workers and animals as disposable, depending on toxic "technofixes" — fertilizers, pesticides, antibiotics, growth hormones, pharmaceuticals, AI, and genetic engineering schemes — to patch over the diseases and degradation they themselves create. While short-term profits thrive, farmers get trapped on treadmills of debt and agrichemical use[73] as they need ever more expensive inputs to grow crops in depleted soils and to deal with pests that are evolving around GMO/pesticide technologies.[74] Speculation on commodity crops further drives food price volatility, compounding debt problems and putting the livelihoods of smallholder farmers in a state of permanent precarity.[75] Attempts to strengthen regulations to limit food price speculation, such as those that followed the 2008 global financial crisis, are regularly rolled back by powerful agribusiness lobbies.[76]

Grassroots movements have long recognized how the wrong-headed logic of the Agribusiness Financial Complex creates a food system that cannot feed the world. As La Via Campesina insists, "Food is not a commodity." It is a right, a public good, and life itself. Calls for "true-cost accounting," improved labor rights, and polluter-pays policies are attempts to make agribusiness more accountable for the damage it causes. These policies threaten the industrial agribusiness model because they reveal its illegitimacy. The same is true for labor costs. If agribusiness corporations had to pay the real cost of the labor and resources they use and the harm they cause, they would no longer be profitable.

> **FOOD INFLATION IS ... CAUSED BY TRANSNATIONAL CORPORATIONS RAISING PRICES AT RATES THAT EXCEED INCREASED COSTS AND RISKS. ... CORPORATIONS HAVE BEEN FALSELY ATTRIBUTING PRICE HIKES TO VARIOUS CRISES TO HIDE THEIR PROFITEERING.**
>
> **United Nations Special Rapporteur on the Right to Food, Michael Fakhri[77]**

2. Creates systemic risk and fragility

Though it appears powerful and strong, in reality industrial agribusiness is inherently brittle. The same hierarchies that extract value from land and labor undermine the resilience of communities and ecosystems. "Resilience" is not simply a nice buzzword when it comes to food systems. It describes the ability of a system to bounce back from shock — to absorb and flexibly respond to changes. Scholars of resilience point to *diversity*, *redundancy*, and *decentralization* as keys to system stability, all of which are starkly absent from industrial food and agriculture.[78] Just five countries (China, the USA, Brazil, Russia, and India) now supply 70% of industrial food exports,[79] while four firms control more than half of global seed sales, even fewer control genetics breeding, and a handful of data platforms control and exploit farmers' digital information.

Agribusiness has spent centuries streamlining inputs, monocrop agriculture, distribution, and commodity sales to single large nodes (i.e., ports or monopoly firms) in the name of economic efficiency. A history of large traders serving giant processed food companies for large "just-in-time" supermarket distribution means that certain agricultural regions and a handful of corporations have become *narrow points of failure* that magnify shocks.

This problem was apparent when Russia invaded Ukraine — which supplies 10% of global wheat exports — and sparked cascading price spikes in grains and oils that rippled from Europe to Indonesia, where protests forced a palm oil export ban and disrupted markets from Africa to the U.S.[80] A 2023 study from Columbia University found that "synchronized crop failures due to simultaneous weather extremes across multiple breadbasket regions pose a risk to global food security and food system supply chains" and concluded that the risks of harvest failures in multiple global breadbaskets have been underestimated.[81]

The problem became apparent again in March 2026 as one-third of global seaborne fertilizer trade was blocked by military action in the 30-mile-wide Strait of Hormuz on top of gas and sulfur shipments that are needed by other major fertilizer producers in India and elsewhere — massively pushing up prices across the industrial food system.[82]

Meta-studies tracking 50 years of global industrial food production show that rather than exhibiting resiliency, the frequency of shocks, from crop failures to food price spikes, have increased across time on land and at sea, revealing an industrial food system that is becoming increasingly frail. [83]

Systems theorists describe this speeding up of failures as "flickering," in which previously stable systems may wobble before tipping into collapse. COVID-19 sent warning signals about fragility in North America in 2020, when supermarket shelves emptied, workers' health and rights were sacrificed to keep meat plants running, millions of animals were euthanized, and entire crops were dumped while families went hungry.[84] These were not isolated breakdowns but symptoms of a structural flaw: a food system optimized for profit margins, not public welfare or adaptability. The emergence of bird flu in 2024 and 2025 produced a similar pattern, with sharply reduced egg supplies and associated price spikes. Digital farming systems, which are now becoming a key feature of industrial agribusiness, may be especially vulnerable: In 2024, a geomagnetic storm disabled GPS-guided tractors, causing over $500 million in losses for crop producers.[85] The more that agriculture relies on complex, centralized technologies, the more it amplifies rather than buffers systemic risk.

From this perspective, many of the so-called "solutions" proposed by industrial agribusiness — AI, automation, and "precision agriculture" — in fact deepen agriculture's dependence on energy-intensive data systems that are vulnerable to climate disruption and systems failure. One report estimates that more than 200 data centers and 2,400 miles of digital fiber cables are at risk of flooding over the next century.[86] These same data centers are using billions of gallons of water in competition with crop production, while energy firms are reopening fossil fuel reserves to supply the terawatts of energy needed to run servers, further fueling the climate and biodiversity crisis that worsens fragility.

Systems theorist Nassim Taleb describes *antifragile systems* as those that grow stronger, more adaptable, and more resilient under stress, variability, and uncertainty. Antifragile systems rely on *decentralization and diversification* in avoiding single points of failure. They embrace *redundancy and optionality* — having multiple backup strategies or components, even if they seem inefficient in the short term. They also benefit from *variability,* trial and error, and small failures that prevent larger catastrophes. Importantly, they operate under the logic of *skin in the game,* meaning that decision-makers are directly affected by the outcomes of their choices, which disciplines risk-taking and aligns incentives with long-term survival.[87]

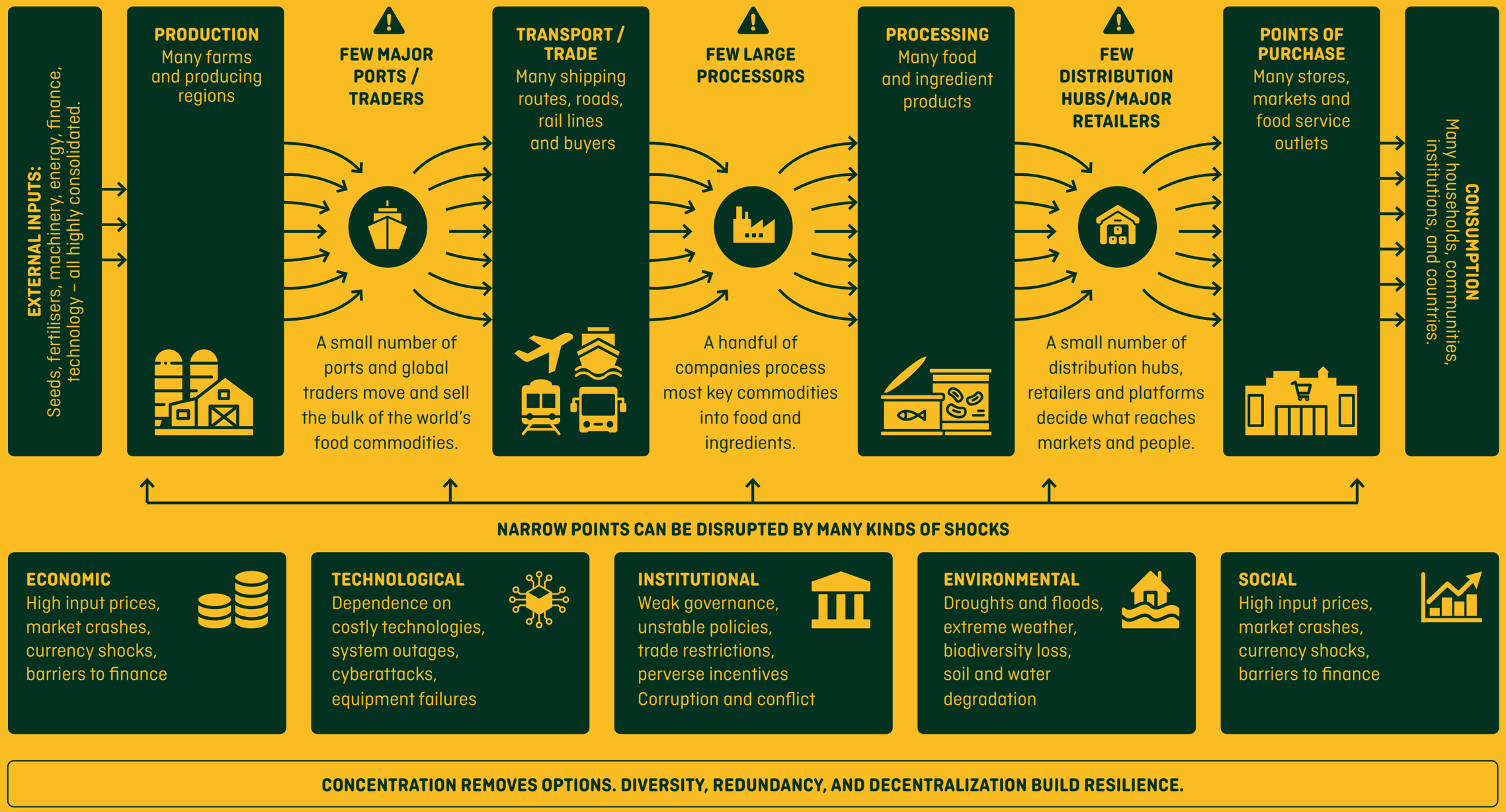
Industrial agribusiness is the opposite: centralized, lacking backup systems, uniform, and under the rule of distant and removed decision-making — thereby fragile by design. Taleb describes genetically modified organisms (GMOs) as a textbook example of a fragile "too big to fail" agribusiness technology, because GMOs introduce systemic risks into complex biological and ecological systems that are poorly understood, and because they facilitate monocrop farming, which is itself fragile by design.[88]

Even beyond the systemic fragility of globalized agribusiness, another layer of profound risk is added when considering the finance aspect of the Agribusiness Financial Complex: Financiers and automated financial algorithms make consequential decisions affecting people's access to food, with no actual *skin in the game* of trying to keep people fed.

The antidote to the brittle industrial agribusiness system: Decentralized, localized and biodiverse food webs, from smallholder networks to Indigenous and peasant territorial farming systems, embody the principles of antifragility, offering the capacity to adapt to shocks and regenerate land, soil, and seed systems through diversity and care.

Narrow Points of System Failure

When many parts of the food system depend on the same small number of companies, regions or pieces of infrastructure, those shared dependencies become narrow points of failure. A shock at one of them can spread through everything that depends on it.



3. Destroys democracy and undermines community rights

A third flaw — **state capture** — locks the industrial food system into an oppressive loop, as industrial agribusiness firms rely on public money, public institutions, and political influence to prop up profits, stifle competition, shape trade rules in their favor, weaken regulations, and block reforms. The financialized industrial food system sells itself on the image of being a successful entrepreneurial business. The truth of industrial agribusiness is that without massive state subsidies, this system could not sustain itself. In reality, this system …

> **… is held in place by corporate lobbying power and industry pressure on government.** It's not only that government is locked in to supporting this model with public funds but that democracy itself is undermined by state capture.[89]
>
> **… needs constant infusions of public money:** A study of 54 countries showed that governments transfer more than $850 billion a year to industrial agriculture (average from 2020-2022).[90] Of that, $518 billion comes directly from taxpayers through subsidies like direct payments, crop insurance, or input support. The other $333 billion comes from consumers through higher food prices. In the U.S., 70% of subsidies go to just 10% of farms — mostly those that raise crops that serve as inputs for livestock feed, biofuels, and ultra-processed foods[91] — while in Europe, 80% of subsidies go to the largest 20% of farms.[92]
>
> **… drives public and farmer debt and dependency:** Farmers and governments are locked into cycles of borrowing to purchase corporate seeds, fertilizers, and pesticides, deepening dependence on agribusiness supply chains. Public debt in developing countries has surged to $11.4 trillion, the highest level in 60 years, much of it tied to financing imports such as food, fuel, seeds, and agrochemicals.[93] To service these debts, many governments are pressured to expand export-oriented commodity agriculture, leaving them vulnerable to volatile global markets and corporate control.[94] This dynamic also reproduces a colonial pattern of extraction: Wealth and resources flow outward while risk and debt remain local.

These crises do not reveal that markets have failed — they are a feature of market design. This is a system structured to convert disruption into profit while deepening inequality and dependence.[95] All the while, the more public money props up industrial agribusiness models, the harder it is for governments to make political decisions to dismantle that system and support a just transition. The lock-ins just get deeper.

Another sign of weakness in the industrial agribusiness system: Massive multinationals that dominate the system are tethered to toxic products that can't withstand public scrutiny or legal accountability. Consider:

- Highly Hazard Pesticides (HHPs) that are banned in Europe are regularly exported to Africa. A recent investigation exposed that 44 Highly Hazardous Pesticides (HHPs) banned in the EU are still being shipped for use on the African continent. In 2024 alone, the EU planned to export nearly 9,000 tons of these toxic pesticides to Africa.[96]
- Bayer, after acquiring Monsanto, has paid and set aside for future payments over $11 billion to settle lawsuits arguing that glyphosate is linked to cancer. The company threatened to stop producing its core herbicide product unless governments stepped up to shield it from further litigation.[97] In a perfect illustration of how state capture works, the U.S. government did just that.[98]
- Syngenta is facing thousands of lawsuits over paraquat, a chemical linked to Parkinson's disease,[99] while Corteva and others face lawsuits alleging price-fixing pesticides[100] and dependence on monopoly tactics rather than innovation or resilience.
- Food manufacturers face multiple lawsuits, too: A June 2025 federal class-action lawsuit accused 11 large ultra-processed food companies of using tobacco industry-style tactics and misleading health claims.[101,102] Recent lawsuits against big meat companies include allegations of price fixing,[103] false marketing,[104] food safety failures, and wrongful death claims.[105]

Palm Oil: The Grease of Empire[106]

When the World Bank introduced the oil palm tree to Indonesia in the 1960s,[107] it took a crop that had been a staple of West African food cultures, cultivated in mixed forests for countless generations for use in cooking, lamp oil, cosmetics, medicines, dyes, and sacraments, and turned it into a global commodity that produced the cheapest and most widely used vegetable oil on the planet.[108] By the 1980s, the World Bank initiated Indonesia's Plasma Transmigration Program, putting oil palm plantation development at the heart of a vast social engineering project that moved millions of Indonesians from the crowded island of Java to the islands of Sumatra, Sulawesi, and Kalimantan,[109] and began a process that, by 2020, had led to the loss of nearly 30,000 square miles of ancient rainforest in that country alone.[110]

Today, bleached, deodorized, and highly refined palm oil is eaten by hundreds of millions of people around the world. Under myriad different names, the oil finds its way into hundreds of food products and has become a primary biofuel input. The appeal of palm oil to the industrial food system is its versatility and profound cheapness: it can be processed into limitless shelf-stable forms, transported and stored for long durations, and is typically 20-30% cheaper than other oils.[111] While it is a profoundly efficient crop, its "cost-effectiveness," as many have pointed out,[112] is largely due to exploitative economic and geopolitical forces: the cheapening of land and labor and the ability of plantation companies to externalize costs by ignoring the ecological impacts of rainforest destruction or the toxic runoff of agrochemicals,[113] and the human rights impacts of protracted land conflicts that define much of the industry to this day.

While industry bodies like the Roundtable on Sustainable Palm Oil (RSPO) have sought to improve palm oil's environmental footprint, such efforts have served primarily to burnish the industry's reputation and make this cheap industrial commodity more palatable.[114] No matter what lengths the industry goes to in order to give palm oil a cosmetic makeover, land theft and exploitation are central to the business model.

Just as the history of sugar is intertwined with plantation slavery across the Americas,[115] the history of palm oil is the history of empire. The multinational company now known as Unilever built its fortune in part on palm oil in the forests of the Congo Basin. From that foundation, Unilever has grown to be synonymous with cheap industrialized food and the globalized commodity trade.[116] Following Unilever's colonial plantation model, the years of Indonesia's brutal Suharto regime saw the rise of Southeast Asian conglomerates, including Wilmar and Olam, which join Unilever, Cargill, ADM, and Bunge as major purveyors of palm oil on the Agrifood 100.[117] (See Part 2, pp. 84-89.)

A look at the Forests & Finance database[118] reveals that tens of billions of dollars in credit, shareholdings, and other financial products underwrite the flood of palm oil across the world – and the ongoing destruction of the world's last primary forests.

Industrial Soy and the Ecocide of the Cerrado and the Amazon

With less than 4% of its production used for direct human food,[119] the highly financialized soy industry is destroying some of the world's most critical ecosystems at a scale that is difficult to comprehend.

The Brazilian Cerrado, a globally significant biome and the world's most biodiverse savannah, is one of the key sites of massive industrial soy expansion. Home to Indigenous, *quilombola* (Afro-descendant), and other traditional peasant communities that have lived on the land for generations, as well as home to 5% of the world's plant and animal species,[120] the Cerrado biome covers an area the size of Western Europe. In recent decades, half of the Cerrado's forest has been destroyed and replaced by a green desert of high-value agriculture commodities.[121] Most of the soy grown here is exported to China and Europe, and processed, in its vast majority, for animal feed.[122]

A 2006 agreement forged between environmental groups, Brazilian authorities, agribusiness, and Western consumer goods companies attempted to halt soy expansion in the neighboring Amazon, the world's largest and most iconic tropical rainforest. As oil, mining, logging, cattle ranching, and other developments have been threatening the Amazon, its Indigenous peoples and traditional communities, the Amazon Soy Moratorium and related conservation efforts managed to prevent, at least for a while, the wholesale destruction of an area of rainforest the size of Ireland.[123]

Despite being a biodiversity hotspot and a critical source of water for the nation and the entire region, the Cerrado was far less iconic for conservationists than the Amazon — and its topography far more attractive to financial speculators and agribusiness.

Behind the destructive expansion of the soy industry is a deeper trend: Much recent research has shown that financial speculation in land is central to the deforestation and violence devastating the Cerrado.[124] Between 2020 and 2023, the price of land used for soy production in Brazil rose 127% on average,[125] fueling a continuing trend of land speculation that began

Farmers demanding land back, Indonesia
Credit: WALHI/Friends of the Earth Indonesia

after the 2008 global economic crisis.[126] This financial land grab has enabled deforestation of historic proportions: More land has been deforested in the past 20 years — close to 13 million hectares, an area larger than the U.S. state of Pennsylvania — than in the previous 500 years.[127]

After the 2008 financial crisis and the resulting collapse of the U.S. housing market, many financial companies sought less-volatile investment opportunities.[128,129] Paying little apparent heed to long-term nature risks — including the risk of irreversible ecosystem collapse[130,131] — they identified farmland as a sound financial investment. With the soy industry pushing into the Cerrado, land values increased and financial firms saw the trend and began investing. The more land bought by foreign firms, the higher the prices went. Growth begets growth, business feeds business, and soon enough, the agrarian communities who had forged a livelihood there for centuries faced a land grab of epic proportions.[132]

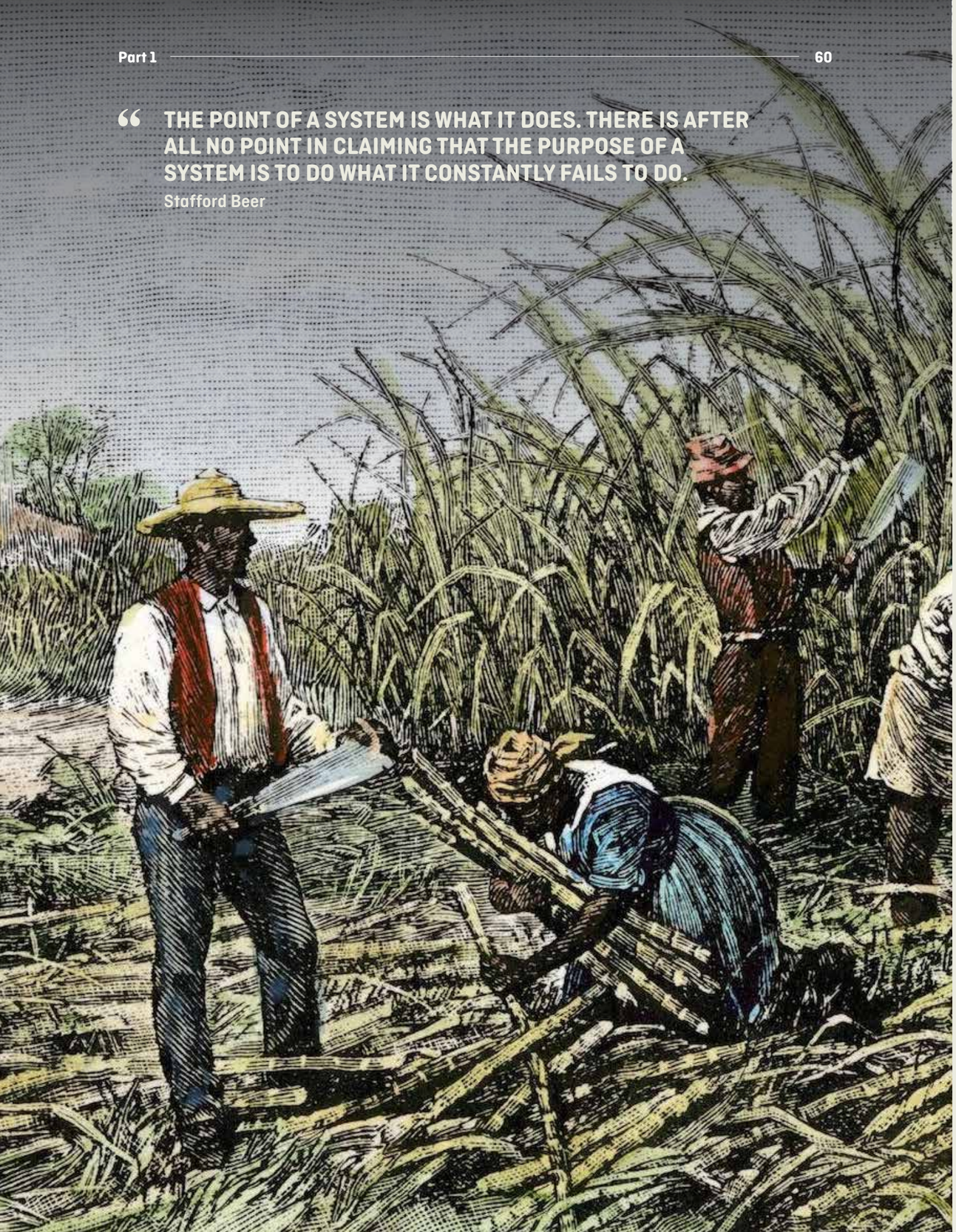
The role of land as a source of capital accumulation is certainly not new – but over the last two decades, in an entirely unprecedented manner, land has become a globally traded commodity. Civil society and global social movements rose up to name "land grabbing" as a major threat to territorial rights and the peasant food web, but the trend continued. As early investors in the Cerrado land rush, Nuveen Natural Capital, an early actor in acquiring land in the Cerrado, weathered constant criticism to become the seventh-largest institutional farmland owner in the world.[133]

To make matters worse, as of 2026 the Amazon Soy Moratorium has been dismantled by Brazil's powerful agribusiness lobby.[134] The largest multinational soy traders are abandoning this critical agreement in droves[135] — boding extremely ill for the future of the world's largest rainforest.

Forest degradation in the region, largely driven by fires, has risen 163% in two years, as agribusiness expansion for cattle and soy continues to drive approximately 80% of forest loss in the Brazilian Amazon.[136] Meanwhile, Brazil's pro-agribusiness Congress is advancing sweeping environmental rollbacks including the 2025 "Devastation Law," weakening licensing safeguards and accelerating destructive infrastructure and extractive projects.[137] Taking advantage of the political opportunity, big trading companies such as Cargill, Amaggi, Louis Dreyfus, and Bunge are pressuring for more logistical infrastructure for their exports, leading to a dangerous combination of highly subsidized industrial agribusiness and export-oriented infrastructure.

This consolidation of financial-agribusiness-infrastructure interests is now rushing to construct a "Northern Arc logistics corridor:" a vast network of highways, railways, waterways, and ports intended to reshape the Brazilian Amazon into a global commodity export zone which will supercharge the expansion of monocultures across both the Amazon and the Cerrado.

Projects such as the proposed *Ferrogrão* railway — a 1,000-kilometer rail line linking soy-producing regions of Mato Grosso's Cerrado to Amazon river ports in Pará — and the proposed dredging of major rivers such as the Tapajós, Madeira and Tocantins to advance industrial "*hydrovias*" for soy barges, are projected to fuel rights violations and drive thousands of square kilometers of new deforestation, impacting dozens of Indigenous territories and entrenching a new wave of agribusiness expansion across both biomes.



> THE POINT OF A SYSTEM IS WHAT IT DOES. THERE IS AFTER ALL NO POINT IN CLAIMING THAT THE PURPOSE OF A SYSTEM IS TO DO WHAT IT CONSTANTLY FAILS TO DO.
>
> Stafford Beer

The Agribusiness Financial Complex in Historical Context: Fulfilling a narrow aim of enriching a powerful few

Today's industrial food system was not inevitable. It was deliberately built upon — and is rooted within — centuries of colonialism, land theft, slavery, racism, patriarchy, and genocide. This history matters because the roots of today's food crises lie in choices made centuries ago: European colonial powers forcibly seized land across Africa, Asia, and the Americas, violently displacing Indigenous people and enslaving millions to create vast plantation economies. They cut down vast forests to supply timber for imperial ships and remote cities, often converting once-forested lands to sprawling plantations. These plantations didn't grow food to nourish local communities; they grew export commodities like sugar, cotton, coffee, and spices[138] (and later palm oil and rubber) to enrich European markets. Colonial governments and merchants designed the rules to extract as much profit as possible, concentrating land and power into the hands of a few and destroying diverse, local food webs in the process.

None of the wealth which propelled Europe and the U.S. to global dominance would have been possible without enslaving millions of Africans,[139] without centuries of colonialist violence, exploitation, and extraction across Asia, and without "removing" tens of millions of Indigenous people through genocidal policies directly tied to resource extraction.

While history is filled with conflict, these violent interventions occurred on a world scale and at a level never before seen, and they were profoundly at odds with the lifeways of most societies. Most peoples in human history saw themselves as part of the web of life and produced food in ways that recognized and honored the relationships among people and the ecologies of the more-than-human world. The violence of conquest, the ensuing dominance of empires rooted in Europe and later in the U.S., and the subsequent emergence of the industrial agricultural complex in the 20th century reshaped food systems as a source of profit.

> UNDERSTANDING THAT OUR PRESENT WORLD ORDER IS ONE THAT WAS BUILT AS A GLOBAL RACIAL EMPIRE HELPS US EXPLAIN WHERE ADVANTAGE AND DISADVANTAGE ACCUMULATES AND FOR WHOM."
>
> Olúfẹ́mi O. Táíwò

But, across the centuries and up to the present day, Indigenous people, peasants, and the urban poor have fought for different kinds of food systems that nourish communities and protect ecosystems and territories.

The extractive model that built empires never ended; it simply evolved. The same forces that built the colonial plantation economy now shape a food system

meticulously designed to serve profit over people. The very concept of *agribusiness*, coined in the 1950s by Harvard economists John H. Davis and Ray Goldberg, redefined farming away from its social and cultural role to an economic role as part of a unified corporate system linking inputs, production, processing, and sales – all organized to maximize shareholder returns. Around the same time, the Bretton Woods Institutions — the World Bank and International Monetary Fund (IMF) — were building the postwar global economy and financing the so-called modernization of agriculture across the Global South. Their development model promoted large-scale, high-input, export-oriented farming modeled on U.S. industrial agriculture (branded as the **"Green Revolution"**) for primarily financial reasons.

To understand the relation between the brutal policies of the international finance institutions responsible for globalizing the Green Revolution[140] and the earlier brutalities of colonial violence, consider this fact: Two of the major figures of African liberation and anti-colonial resistance, Patrice Lumumba of the Democratic Republic of Congo and Thomas Sankara of Burkina Faso, were both assassinated — Lumumba in 1961 and Sankara in 1987 – after publicly seeking independence from the IMF's economic policies.[141]

By the 1980s, under the banner of the "Washington Consensus," the IMF and World Bank imposed structural adjustment programs as conditions for loans, using debt as leverage to reshape national economies. In exchange for financing, countries were required to open their markets to foreign investors and dismantle protections for local industries and farmers. A 2019 study of IMF conditionality estimates that 43% of IMF loan programs (from 1980 to 2014) included food and agriculture conditions, most pushing to liberalize markets and reduce state price supports, agricultural insurance, and credit provision.[142] Again, financiers determined the shape of food systems.

For food and farming, the impact of these policies was profound:

- **Shift to export crops:** Countries were encouraged (often required) to dismantle protections for staple foods and instead grow cash crops for global markets, locking farmers into commodity supply chains controlled by multinational agribusiness.
- **Privatization of agricultural services:** Public programs that once supported small farmers were dismantled or sold off, creating new markets for corporate inputs and finance.
- **Dependence on imports:** With local food systems undermined, many countries became dependent on imported grains and processed foods, exposing them to price shocks and debt traps.
- **Debt and austerity:** By prioritizing debt repayment over public investment, governments were forced to slash spending on health, education, and food subsidies, deepening poverty and hunger while funneling resources toward global creditors.

The result was a wave of privatization and dependency that deepened rural poverty, weakened public services, further excluded women smallholders from access to critical supports like food reserves and farmer extension services,[143] and paved the way for multinational corporations to dominate seeds, agrochemicals, and food trade. In effect, the Bretton Woods Institutions helped swiftly globalize the Davis-Goldberg vision of "agribusiness," transforming farming into an arm of finance and consolidating a food system designed to serve investors before eaters or farmers.

This erosion of public investment ultimately created fertile ground for speculative finance to corrode the foundations of agriculture and give way to the Agribusiness Financial Complex.

THE BRETTON WOODS INSTITUTIONS HELPED GLOBALIZE THE AGRIBUSINESS FINANCIAL COMPLEX, TRANSFORMING FARMING INTO AN ARM OF FINANCE AND CONSOLIDATING A FOOD SYSTEM DESIGNED TO SERVE INVESTORS BEFORE EATERS OR FARMERS.

> **AS FOOD INSECURITY AND RURAL POVERTY ARE INCREASINGLY VIEWED AS ISSUES THAT CAN BE SOLVED THROUGH THE MARKET, NOTIONS OF WHICH AGRICULTURAL MODELS ARE BEST FOR ACHIEVING PUBLIC GOALS BECOME OVERSHADOWED BY WHICH APPROACHES CAN ATTRACT CAPITAL.**
>
> Agroecology and Public Development Banks, 2025[144]

Pivot to public-private partnerships

By the late 1990s, these austerity policies had sparked widespread backlash. So, the Agribusiness Financial Complex pivoted, shifting tactics to what the Oakland Institute and others have called the "new aid conditionality."[145] Aid, investments, and public-private partnerships (rather than overt loan conditions) now provided incentives for poorer countries to open their food and farm systems to corporate investment.

The G8's New Alliance for Food Security and Nutrition (2012), for example, tied aid commitments in African countries to policy reforms favoring seed patenting, land privatization, and corporate input markets.[146] Similarly, the World Bank's Enabling the Business of Agriculture program (2013) ranked countries on how easily agribusiness could access seeds, fertilizers, and land — rewarding them for weakening seed sovereignty and making fertilizer markets more accessible and profitable. Food sovereignty campaigners warned that these programs "reward countries for reducing their labor standards, destroying their environment, and providing easy access for corporate pillaging and land grabs. They create a **race to the bottom** as they clamor for World Bank investment dollars."[147]

A 2025 report analyzing the potential for public finance institutions like the World Bank to support agroecology shows that some development banks are slowly moving in this direction. However, the study argues, rethinking the role of public finance institutions in agriculture "requires confronting their contribution to broader systemic and structural issues: rising sovereign indebtedness, the continued industrialization of agriculture, the promotion of extractive investments that degrade ecosystems and marginalize agroecological farmers, the violation of human rights, and the entrenchment of a narrow vision of modernization and progress. Together, these dynamics undermine efforts to realize the Sustainable Development Goals and the right to food in socially and ecologically just ways.[148]

Philanthropy and the Reproduction of the Industrial Food System

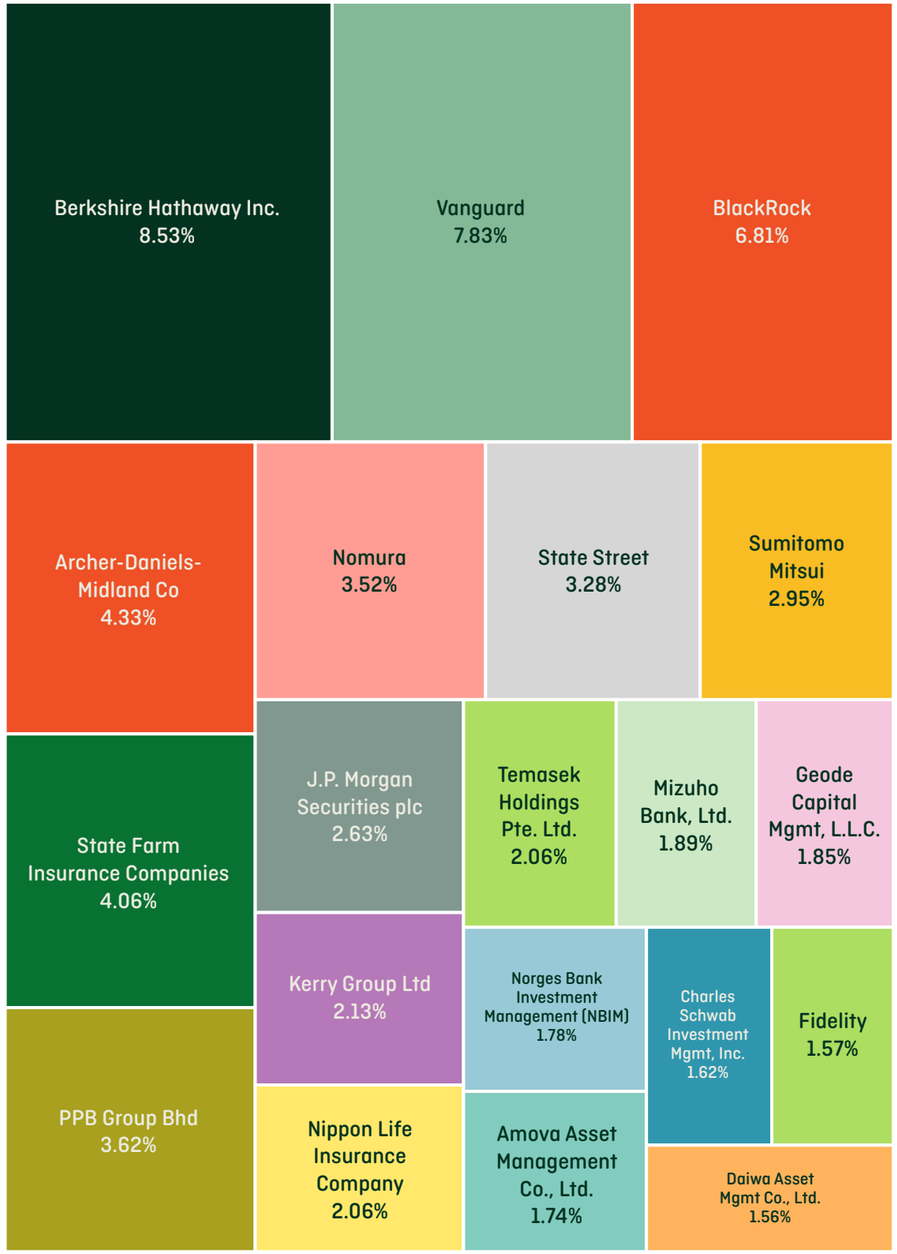
Philanthropies like the Gates Foundation work closely with the World Bank[149] to promote seed privatization, digital farming platforms, and biotech adoption – often under the rubric of "innovation" and "climate-smart agriculture." The Gates-funded Alliance for a Green Revolution in Africa (AGRA) works to transition farmers away from traditional farming to commodity crops for export markets.[150] Despite $1 billion in foundation funding to AGRA and another $1 billion in subsidies to farmers from African governments in AGRA countries over 15 years, the "green revolution for Africa" has failed to improve food security, and hunger continues to rise in the world's hungriest region.[151]

Concentration and control by corporate and finance giants

> **CAPITALISM … GENERATES ARBITRARY AND UNSUSTAINABLE INEQUALITIES THAT RADICALLY UNDERMINE THE VALUES ON WHICH DEMOCRATIC SOCIETIES ARE BASED.**
>
> **Economist Thomas Picketty**

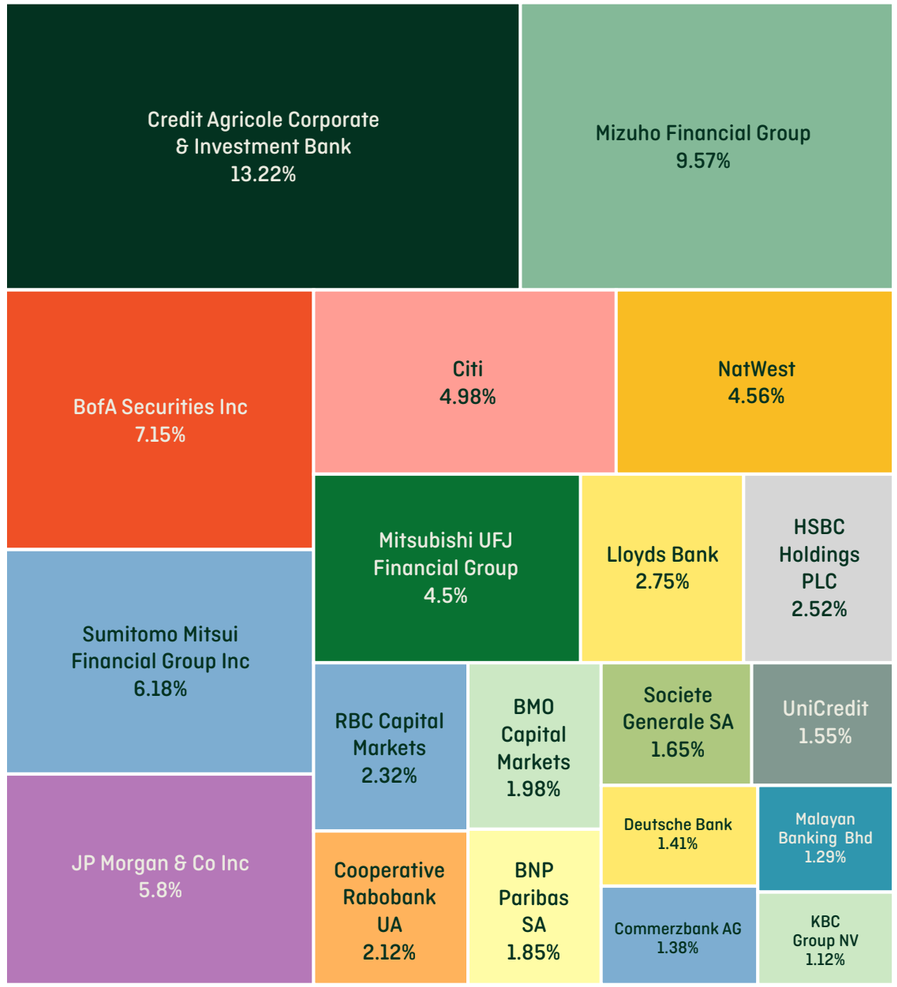
Today, global food and agriculture are dominated by a handful of powerful companies, many of them legacies of earlier firms. The "Big Four" seed and pesticide giants (Bayer, Corteva, Syngenta/ChemChina, BASF) are direct successors to firms like Monsanto, DuPont, Dow, Ciba-Geigy, et al. The "ABCD" firms (ADM, Bunge, Cargill, Louis Dreyfus) have dominated the global grain trade for more than a century. Scratch beneath the surface and it becomes apparent that these established companies are backed by banks, private equity firms, and asset managers — BlackRock, Vanguard, State Street, Fidelity, and other powerful financial interests — that hold major shares in agribusiness giants and pressure them to deliver fast financial returns, creating dynamics that push costs and risks onto workers, communities, and ecosystems. Trade rules, shaped by global financiers and their allied governments, enforce a global model of export-led, input-heavy agriculture, displacing local food systems and traditional crops. National governments, influenced by heavy corporate lobbying and corporate capture of regulators, reinforce the system with massive subsidies and lax or nonexistent regulation, as well as crop insurance, loan structures, and public research geared toward patentable seeds and chemical-intensive farming.

Top 20 Owners of Agro-commodities Sector



Source: Nikhil Ghosh, York University, based on 2026 data.[152]

Top 20 Creditors to Agro-commodities Sector



Top lenders to agro-commodity firms ADM, Bunge, Cargill, COFCO, Louis Dreyfus, Itochu, Olam and Wilmar. Source: Nikhil Ghosh, York University, based on 2026 data.[153]

At every step, the Agribusiness Financial Complex prioritizes concentrated control of land, seeds, water, data, and labor. None of this is accidental: It is structurally coherent, designed to extract wealth, maximize returns, and consolidate power. Advocates for rights-based food system transformation must recognize these structural patterns and work to overturn them.

Unpacking Financialization[154]

Earlier, we explained that there are two competing food system logics — that of the Peoples' or Peasant Food Web and that of the industrial food system. In a similar way, it is said that there are two economies: the **real economy** and the **financialized economy**. The **real economy** is what people experience in their daily lives through the creation and exchange of real value — the production, distribution, and consumption of tangible goods and services. The **financialized economy** focuses on financial assets and secondary markets, including speculative activities such as trading stocks, bonds, futures, or **derivatives**.

Another way to understand financialization is the expansion of private finance within all aspects of life, or "the increasing dominance of financial actors, markets, practices, measurements, and narratives, at various scales, resulting in a structural transformation of economies, firms (including financial institutions), states, and households."[155] In practical terms, this entails the increasing subservience of public institutions, private companies, and households to the banks, asset managers, stock exchanges, data providers, credit ratings agencies, advisory and brokerage firms, and other financial powerhouses that control how money flows through the economy.[156]

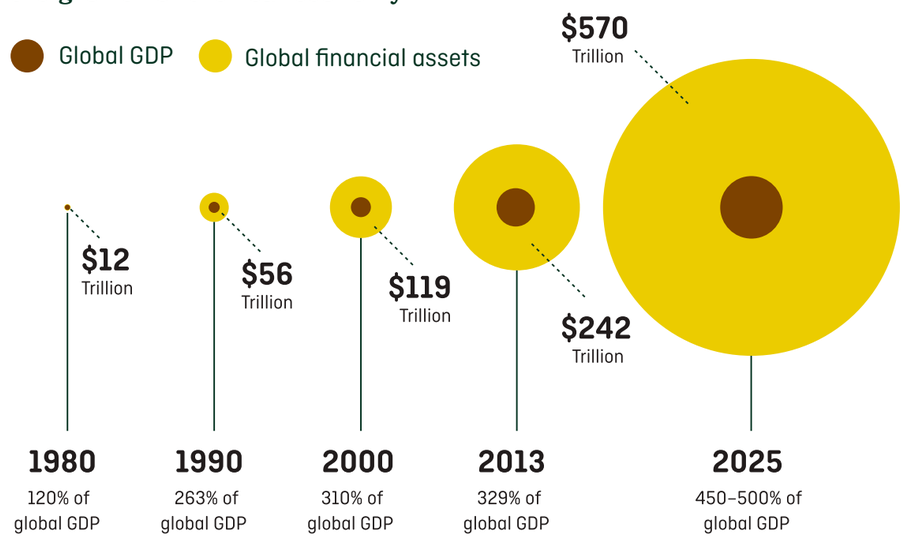
Through financialization, the provision of public goods and services has become increasingly reliant on private investment and private for-profit corporations owned by remote shareholders oriented toward wealth accumulation rather than well-being.[157] Private companies themselves have turned to financial products to generate profits rather than through commodity production and trade. Public resources are thus being redirected to private financial actors through various direct and indirect channels, ultimately accumulated as wealth by a small segment of global society. In essence, financialization has shifted private finance ever further away from serving economies to aggressively extracting profits from society.

This dynamic in turn drives increased resource extraction, as new frontiers of resource extraction must be developed and transformed into profitable assets to feed finance.

Importantly, the sheer *financial* power of the financial sector is used to increase its *political* power, through lobbying and political spending.[158] It is largely due to the political power of the finance sector that few governments have meaningful regulations to prevent banks and investors from banking on biodiversity destruction[159] and climate chaos.[160]

In her groundbreaking book *Doughnut Economics*, economist Kate Raworth writes, "In the majority of countries, the privilege of creating money has been handed to commercial banks, which create money every time they offer loans or credit. As a result, more money is made

Growth of the financial economy far outstrips the growth of the real economy



Source: Bretton Woods Project, used with Permission.

available only by issuing more interest-bearing debt, and that debt is increasingly being channeled into activities such as buying houses, land, or stocks and shares. Investments such as these do not create new wealth but instead earn a return simply by pushing up the price of existing assets. When such debt increases, a growing share of a nation's income is siphoned off as payments to those with interest-earning investments and as profit for the banking sector, leaving less income available for spending on products and services made by people working in the productive economy."

That is to say, while ordinary people can make money by producing and selling their labor and the actual *things they produce* — farmers producing food, for example — large banks and investment houses are able to make money from money — or from thin air, with the stroke of a keyboard. This is the essence of financialization.

A critical way in which financialization impacts food is through **commodity speculation**, where agribusiness traders act like banks and create money through **futures trading**. In the early stages of agribusiness development, agribusinesses were allowed to protect against the financial risks of crop failure or market crashes — that is to "hedge their bets" — by locking in the future prices of their crops. But as the power of both agribusiness and financial

markets grew, such hedging became a tool to generate profits rather than merely to protect their sale of goods.[161] This transformation represents a direct shift from the real economy to the financialized economy — and it directly and powerfully undermines the food sovereignty and well-being of billions of people across the world.

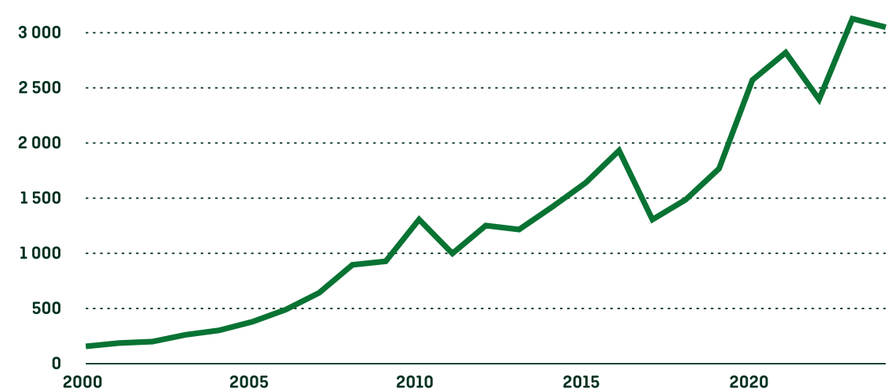
According to the UN FAO, 98% of commodity futures end without the physical trade of commodities.[162] In other words, most of the trading of food commodities in financial markets today is purely speculative and does not involve the actual exchange of physical goods. Notably — and not by coincidence — the companies that control the global grain trade are at the forefront of commodities trading.[163]

Speculation heavily influences food prices, often resulting in high inflation rates, especially during economic shocks such as the 2008 housing crisis, the COVID-19 pandemic, or the current geopolitical crisis brought on by the U.S.-Israeli war on Iran.

But commodity speculation does not merely drive market shocks — it depends on them. As a recent report has noted, "If the price of any given asset does not fluctuate over time, no speculative profit can be extracted. This means speculation inherently feeds on price instability."[164]

Financial instruments power global commodity trade, including agriculture*

Exchange-traded agricultural derivatives, millions of dollars, 2000–2024



Most trading of food commodities in financial markets today is purely speculative and does not involve the actual exchange of physical goods. Source: UN Trade and Development (UNCTAD) based on the ETD tracker database of the Futures Industry Association. Note: The financial instruments traded on global exchange-traded derivative markets include futures and options.

** For definition of these complex terms, see the glossary: **commodity futures** and **derivatives**.*

ACCORDING TO THE UN FAO, 98% OF COMMODITY FUTURES END WITHOUT THE PHYSICAL TRADE OF COMMODITIES.

A recent report from the Bretton Woods Project argues that the financialization of agricultural commodity markets is not a neutral market development but a structural transformation largely catalyzed by the policies of the IMF and World Bank.[165] Under the policy priorities mandated by these institutions, essential goods like wheat, maize, and rice came to be treated as financial assets. These same policies transformed commodity derivatives — originally designed as a form of insurance to manage risks and stabilize the price of goods — into products traded by financial investors.[166]

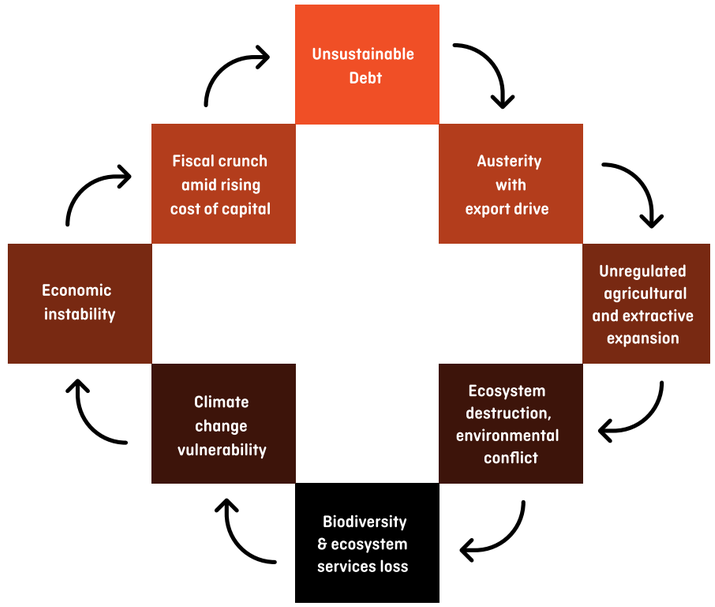
Excessive speculation in food commodity markets has repeatedly turned manageable supply shocks into global emergencies, pushing millions into hunger. The best-known example comes from the 2008 financial crisis, when commodity speculation sent global wheat prices soaring, resulting in food riots and 75 million more people going hungry.[167]

The downward spiral continues when widespread hunger drives national governments to go back to the IMF and World Bank — the very institutions that created the crisis — to take loans, which deepen their debt … and the cycle of extraction continues.

The Architecture of Debt

It is no mistake that agricultural policies and land management practices in most countries are dominated by private corporations extracting as much value as they can from land and labor. The **International Financial Architecture** — the ways that economies and financial flows are designed — is entirely built on an extractive, colonialist model that drives countries into debt, greatly reduces their capacity to respond to ecological and climate crises, and undermines food sovereignty and other public needs.[168] Rather than supporting resilient and sustainable economies, global financial institutions like the IMF, the World Bank, and the Development Finance Corporation, as well as the bodies that design global trade agreements, require countries to adopt policies and practices that drive ecological destruction. Today, more than 40% of the world's population lives in countries that spend more on interest payments than on essential development needs, like health, education, biodiversity conservation, or climate action, ultimately undermining our collective social stability and well-being.[169]

A vicious cycle of debt, extraction, biodiversity loss, and climate vulnerability.



Source: Ray, R. & Zhou, G.K. Virtuous or Vicious? Choosing the Relationship Between Debt, Communities and Nature.

The Wrong Kind of "Values"

> **NOWADAYS PEOPLE KNOW THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING.**
> **Oscar Wilde (with a nod to Raj Patel)[170]**

Two business concepts reveal some of the mechanisms by which the Agribusiness Financial Complex prioritizes profit over nourishment: **value chains** and **shareholder value**.

Value Chains: Industrial agribusiness organizes food production as long, global "value chains" — linear systems where each actor extracts profit as food moves from seed to shelf. These chains are complex by design. A single North American cheeseburger might contain 50 ingredients sourced from multiple continents, not counting the chemicals, pharmaceuticals, and digital tech used to raise the cow. The longer and more complex the chain, the more points along the chain for investors and intermediaries to extract away profit or rent to themselves.

The Global 'Value Chain' of a North American Cheeseburger

A seemingly simple cheeseburger is the end point of a long, geographically dispersed chain.
The longer and more complex the chain, the more points for profit, fees and rent to be extracted.

01

Input

Seeds, fertilizers, pesticides, animal genetics, veterinary pharmaceuticals, machinery, software/data and finance.

02

Faming & Livestock

Cattle, feed crops, wheat, oilseeds, dairy, vegetables and other agricultural commodities.

03

Processing

Feed mills, slaughterhouses/ meatpacking, dairies, flour mills, food-ingredient and sauce manufacturers.

04

Food Manufacturing

Burger patties, cheese, buns, sauces and assembled ingredients.

05

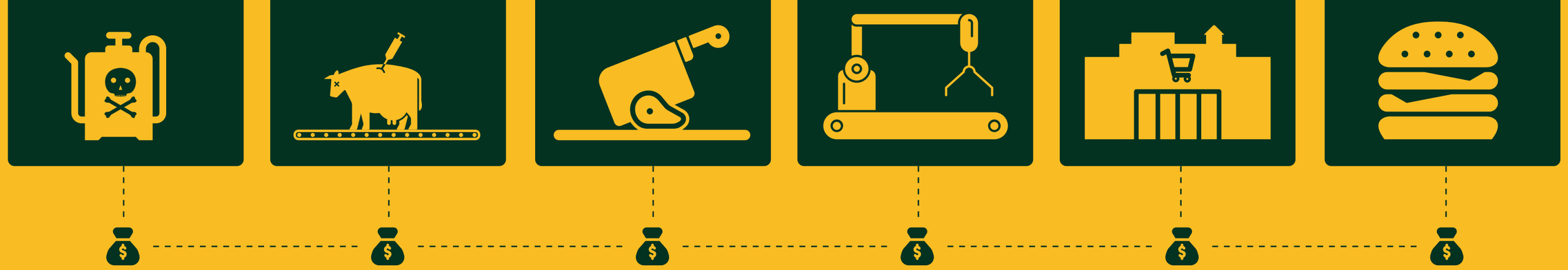
Retail & Food Service

Supermarkets, restaurants and fast-food outlets.

06

The Final Product

One cheeseburger.



A LONGER CHAIN CREATES MORE POINTS FOR PROFIT, FEES AND RENT TO BE EXTRACTED

THROUGHOUT THE CHAIN

TRANSPORT & LOGISTICS

Trucks, rail, ships, ports, warehouses, and cold chains.

TRADING & AGGREGATION

Commodity traders, brokers and other intermediaries.

Shareholder Value: No idea has distorted food policy more than prioritizing the pursuit of shareholder value. Popularized by right-wing economist Milton Friedman, what became known as the "Friedman doctrine" holds that a company's sole duty is to maximize returns to investors.[171] As shareholder power gained supremacy, agribusiness companies became beholden to maximizing shareholder value over food production needs. Agribusiness embraced this logic — and reaped record profits. Between 2007 and 2011, agribusiness was the top-performing global sector for shareholder returns, according to Boston Consulting Group.[172] The quest to retain the high amounts of shareholder value has since driven corporate concentration.

This "success" came at a cost: intensified extraction from soil, animals, labor, and communities. To keep profits high, corporations merged, consolidated power, and expanded industrial models. Today, most agribusiness firms are owned by asset managers and private equity firms legally required to deliver inflated quarterly profits, regardless of ecological impacts, cultural traditions, or human needs.

Beware of fake "transformation" narratives.

Agribusiness companies are aware that the agrifood commodity system is failing by many of the metrics that matter. That's why they spend billions of dollars on public relations, lobbying and disinformation efforts to obscure the truth.[173] In the past five years, industry-captured initiatives such as the Food and Land Use (FOLU) Coalition and the UN Food Systems Summits have trumpeted a version of agribusiness reform (misnamed "food system transformation") that misdirects policy attention away from the corporate and financial root causes of food system failure.[174] Industry groups have been pitching policymakers a menu of false prescriptions, using "climate smart farming," "nature-based solutions," "regenerative agriculture," "sustainable intensification," and "precision agriculture" to greenwash approaches that further entrench the commodity model, financialization, and corporate power.[175] While advancing false narratives about "feeding the world," their proposals are still structured around the toxic, industrial agrifood model.[176] While they may claim a contract with society to feed it well (or cheaply), any such agreement should be viewed as long ago violated.

Conclusion: Abandoning the Agribusiness Titanic

Along with shifting financial structures and models, we must pull back the veil on corporate propaganda and assumptions that legitimize the Agribusiness Financial Complex. We are told that industrial agribusiness is our only hope to "feed the world," as if this system is a mighty ship that will keep us afloat in turbulent times. The story goes that we're all in the same boat — rich and poor, urban and rural — and we are made to feel dependent on the size and power of the global industrial food system. But that's a myth. About 70% of the world's population — especially in the Global South — relies primarily on local, territorial, and informal food systems that operate outside the industrial model.[177] Meanwhile, the corporate-led food system, far from being a lifeboat, is acting as a destructive trawler. It is sucking up public resources and damaging the very food webs and ecosystems most of the world relies on.

What we are witnessing is less a tale of shared salvation on board a large safe ship and more an unfolding Titanic disaster: The industrial agribusiness system has become a bloated, overconfident vessel, too big to turn and locked on a collision course with ecological and social limits.

Agribusiness giants tout their scale and technological power as a strength, parading a luxurious upper deck of "winners" who dine in relative luxury, while vast populations labor and suffer below deck. As cracks appear and ecological threats loom and grow, it's time to face the truth: We won't be saved by making this ship more efficient. We need to abandon it.

This is not the moment to double down on a failed model with false promises, risky technologies, or the scaling up of nutritionally empty commodity crops. Those approaches are attempts at keeping the band playing while the ship goes down. Instead, we must deploy the practical and proven lifeboats that are already at hand. Agroecological systems, territorial markets, and community-based food economies already nourish most people worldwide and point us in the right direction. Our energy is better spent defending the ecological systems that exist and reclaiming land, resources, and democratic control.

To secure a livable future, we must chart a path away from the badly constructed Titanic food system to safer shores that center ecological health, human dignity, animal welfare, public provisioning, and the right to nutritious food. Rather than trying to steer a sinking ship, we must provide multiple means for people to reach the shores of just, healthy, humane, and truly resilient food systems.

PART II

Corporate giants in a failed food system

The global food system today is a stark reflection of the world's deepening and intertwined crises of inequality and ecological collapse. A food system dominated by a handful of large-scale extractive corporations does not "feed the world," as the corporate logic claims — it feeds the concentration of wealth by the financiers, shareholders, and billionaire owners of the world's largest companies.[178]

Section at a glance:

- To understand the workings of the industrial food system, it is necessary to analyze its core actors: the largest companies by revenue in the food system, and the dominant companies in the main agrifood sectors of the Agribusiness Financial Complex.
- Many of the agrifood giants are monopolistic actors within their sectors, wielding market power accumulated over a century or more — often through extractive practices rooted in colonialism, land theft, slavery, and **racial capitalism**.
- Many of these companies benefit from taxpayer money in the form of massive government subsidies that prop up the industrial agrifood system.
- The industrial food system is characterized by massive sector concentration where a few large firms dominate entire sectors. Its financing is also heavily concentrated and characterized by **"horizontal shareholding,"** where a few massive financial firms hold large shareholding positions in across the entire system. Nearly one quarter (22%) of the Agrifood 100 companies is owned by just three asset management companies. Over forty percent (41%) of the shares in these companies are owned by just twenty asset managers (and one sovereign wealth fund).
- The way the system functions — and the social and ecological harm it creates — is directly related to the power these large companies wield; companies are not paying the costs for the harms to health, communities, and ecosystems associated with industrial agribusiness but instead force these costs onto workers, consumers, governments, and the public.
- The opacity of the Agribusiness Financial Complex shields companies from exposure and accountability. The system's financialization makes transparency and accountability infinitely more difficult. These layers of complexity make dismantling the system nearly unthinkable. And yet, the planetary crises we face require nothing less.

Meet the Agrifood 100

To understand the workings of the industrial food system, it is necessary to analyze its core actors. Here we identify the 100 companies with the largest agrifood-related revenue in 2022 (the year we analyzed) drawn from across the entire food system. This first-of-its-kind list reveals many of the most powerful companies operating within, and benefitting from, the extractive food system that prioritizes corporate growth and financial returns, often at the expense of public health, social equity, and the long-term sustainability of the resources underpinning food production.

While there are harms caused at every link in the industrial food system, it is the handful of conglomerates that produce, trade, and control the market for industrially-produced meat, dairy, commodity crops, seeds, and agrochemicals that do the most direct harm due to practices that are immensely extractive in both ecological and economic terms. At the same time, the **Agrifood 100** list reveals that, by pure scale, food retailers are the dominant actors within the agrifood system —a situation that has been enabled by financialization.[179]

Together, the **Agrifood 100** companies generated $4.5 trillion in agrifood-related sales in 2022 – more than half the estimated global market that year.[180] The list demonstrates the deeply concentrated economic power operating at all nodes of this system, across geographies and company types.

These firms span the supply chain from production to processing to retail, and they include companies providing chemical and machinery inputs. We also included companies that produce and sell nonedible products grown on land, such as timber, textiles, tobacco, and biofuels — going beyond the FAO's 2020 definition of agrifood systems as encompassing the full "journey of food from farm to table."[181]

Our primary aim was to identify the largest companies generating agrifood-based revenue. Since many food-related companies, particularly in retail, sell products outside even our broad definition of "agrifood," we based our list on agrifood-related revenue data because analyzing revenue allowed for reliable product-specific analysis, including for companies with diverse business segments. While another reasonable metric would be profit — and pure

profit is most certainly an indicator of systemic power — many private actors do not report their profit or bury their true profit in accounting tricks.[182] Most simply, unlike profit, revenue can be disaggregated by product type, so this approach enabled us to identify the food- and agriculture-related aspects of these companies' activities.

Analyzing revenue streams within this market — and the sectors and countries the companies operate in — shines a light on how money flows within the global industrial food supply chain. The **Agrifood 100** exert outsized influence through sheer scale. Their huge revenue streams surpass the national budgets of many countries. Their massive accumulation of capital gives these companies significant control over food supply chains and the ability to shape policy environments to their advantage. Many of them are monopolistic actors within their sectors (see Tables 2-7). And many wield market power accumulated over a century or more — often historically attributable to extractive practices rooted in colonialism, land theft, slavery, and racial capitalism.

Along with the financial actors behind them — the asset managers, private equity firms, commercial banks, and commodity brokers — the **Agrifood 100** don't just control the global industrial food system — they are the system.

The fact that this list is not ranked by any factor other than revenue means that the companies at the top of the list or the bottom of the list are neither "worst" nor "best" — neither leaders nor laggards. Rather, the ranking simply shows size by revenue from the largest on down. The list itself also provides no specific insights into company profits or sector concentration, though these are also important aspects of financial power. Notably, profit margins tend to be reported as much lower in the grocery retail and distribution sectors (around 1.5% on average)[183] and far higher for agro-commodity traders, processors, and input processors. Regardless of profit margin, companies in different sectors have used their market power in ways that can harm consumers, producers, and communities. For example, retailers have faced scrutiny for practices that contribute to rising food costs and price pressures during periods of food insecurity,[184] while the largest agro-commodity traders grew their net profits upward of 200% on average in the years following the COVID pandemic.[185]

A Note on Methodology

Where possible, we disaggregated agrifood sales from other revenue sources. For 59 of the 100 companies (including 8 of the top 10), we were able to isolate agrifood revenue from other streams. For example, agrifood accounts for 53% of Walmart's total 2022 revenue, yet that still makes it the **Agrifood 100's** highest-grossing agrifood company.

In other cases, the entire annual revenue of a company could be attributed to agrifood-related sales — for example, grain traders and meat and livestock producers.[186] In cases where disaggregated data was unavailable — for example, when a company's textile sales were grouped with the sales of home goods and cosmetic products — we used conservative estimates or excluded ambiguous categories altogether. This means our dataset is a low estimate of actual food and agriculture-related revenues – particularly for diversified firms like Amazon and Alibaba. For more on methodology, see *Appendix: Research Methodology*.

The Agrifood 100

Table 1[187]

NAME	TYPE	2022 AGRIFOOD REVENUE (US$M)	2022 TOTAL REVENUE (US$M)	% TOTAL REVENUE THAT IS AGRIFOOD	HQ	INC. DATE	SECTOR
Walmart	Public	$305,600	$572,754	53.4	USA	1945	Grocery Retail
Cargill	Private	$140,279	$165,034	85	USA	1865	Cross Chain, Trader
Schwarz	Private	$118,501	$162,330	73	Germany	1930	Grocery Retail
Kroger	Public	$114,600	$137,888	83.1	USA	1883	Grocery Retail
Costco Wholesale	Public	$110,800	$226,954	48.8	USA	1976	Grocery Retail
中粮 COFCO	State	$101,101	$110,357	91.6	China	1949	Cross Chain, Trader
Nestlé	Public	$99,339	$99,339	100	Switzerland	1866	Food Manufacturer, Drink Manufacturer
ADM	Public	$91,522	$101,556	90.1	USA	1902	Trader
ALDI	Private	$89,760	$112,200	80	Germany	1948	Grocery Retail
PEPSICO	Public	$86,392	$86,392	100	USA	1898	Food Manufacturer, Drink Manufacturer
Coca-Cola	Public	$84,151	$84,151	100	USA	1886	Drink Manufacturer
E.Leclerc	Private	$79,713	$96,040	83	France	1964	Grocery Retail
7-Eleven	Public	$78,971	$89,740	88	Japan	2005	Grocery Retail
JBS	Public	$72,731	$72,731	100	Brazil	1953	Animal Products: Meat & Dairy
wilmar	Public	$72,399	$72,399	100	Singapore	1999	Cross Chain, Trader
TESCO	Public	$70,737	$84,211	84	UK	1919	Grocery Retail
Ahold Delhaize	Public	$69,800	$91,638	76.2	Netherlands	1867	Grocery Retail

Sysco	Public	$67,554	$68,636	98.4	USA	1969	Distributor
BUNGE	Public	$67,232	$67,232	100	USA	1818	Trader [188]
REWE Group	Co-Op	$64,700	$81,341	79.5	Germany	1927	Grocery Retail
TARGET	Public	$61,483	$106,005	58	USA	1902	Grocery Retail
Albertsons	Public	$61,400	$71,887	85.4	USA	1860	Grocery Retail
Carrefour	Public	$61,100	$87,329	70	France	1959	Grocery Retail
LouisDreyfus	Private	$59,931	$59,931	100	Netherlands	1851	Trader
Anheuser-Busch	Public	$57,786	$57,786	100	Belgium	1852	Drink Manufacturer
Tyson	Public	$53,282	$53,282	100	USA	1935	Animal Products: Meat & Dairy
丸紅株式会社 Marubeni	Public	$51,873	$75,777	68.5	Japan	1858	Trader, Cross Chain
JOHN DEERE	Public	$47,946	$52,563	91.2	USA	1837	Agricultural Machinery
Mars	Private	$47,000	$47,000	100	USA	1891	Food Manufacturer
Publix	Private	$44,173	$54,534	81	USA	1921	Grocery Retail
EDEKA	Private	$41,633	$49,563	84	Germany	1907	Grocery Retail
Olam	Private	$40,600	$54,901	74	Singapore	1989	Cross Chain, Trader
AEON	Public	$39,888	$78,211	51	Japan	1758	Grocery Retail
Alibaba.com	Public	$39,881	$132,938	30	China	1999	Grocery Retail
C.P. Group	Public	$39,441	$97,300	40.5	Thailand	1921	Animal Products: Meat & Dairy, Food Manufacturer
Woolworths	Public	$39,326	$44,187	89	Australia	1924	Grocery Retail
CHS	Co-Op	$37,460	$47,800	78.4	USA	1931	Cross Chain, Food Manufacturer, Seed/ Agrochemi-cals
VITERRA	Private	$37,075	$37,075	100	Netherlands	2015	Trader, Cross Chain [189]

Nutrien	Public	$37,012	$37,012	100	Canada	2018	Seed/Agrochemicals
X5Group	Private	$35,927	$38,631	93	Netherlands	1975	Grocery Retail
coop	Co-Op	$35,650	$35,650	100	Switzerland	1864	Grocery Retail
Casino	Public	$35,410	$35,410	100	France	1898	Grocery Retail
Reyes Holdings	Private	$35,300	$35,300	100	USA	1976	Distributor
ITOCHU	Public	$35,035	$109,484	32	Japan	1858	Cross Chain, Trader
BAT	Public	$34,198	$34,198	100	UK	1902	Tobacco
US. FOODS	Public	$34,057	$34,057	100	USA	2007	Distributor
CHEMCHINA syngenta	State	$33,466	$71,128	47.1	China	2004	Seed/Agrochemicals
中国供销合作社	State	$32,833	$32,833	100	China	2010	Seed/Agrochemicals
	Public	$32,250	$32,250	100	USA	1971	Fast Food/ Restaurant
PHILIP MORRIS INTERNATIONAL	Public	$31,762	$31,762	100	USA	1902	Tobacco
МАГНИТ	Public	$31,737	$34,876	91	Russia	1994	Grocery Retail
	State	$31,616	$31,616	100	India	1965	Distributor
Mondelēz International	Public	$31,496	$31,496	100	USA	2000	Food Manufacturer
全農	Co-Op	$30,687	$37,611	81.6	Japan	1961	Cross Chain, Trader
中国林业集团	Private	$30,555	$30,555	100	China	1984	Paper and Forest Products
Heineken	Public	$30,256	$30,256	100	Netherlands	1864	Drink Manufacturer
Auchan	Private	$29,703	$34,538	86	France	1997	Grocery Retail
H-E-B	Private	$29,175	$38,900	75	USA	1905	Grocery Retail
DANONE	Public	$29,141	$29,141	100	France	1899	Food Manufacturer, Drink Manufacturer

UNFI	Public	$28,928	$28,928	100	USA	1976	Distributor
LACTALIS	Private	$28,600	$28,600	100	France	1933	Animal Products: Meat & Dairy
萬洲國際 WH GROUP	Public	$28,136	$28,136	100	Hong Kong	1958	Animal Products: Meat & Dairy
amazon	Public	$27,605	$513,983	5.4	USA	1994	Grocery Retail
Intermarché	Private	$26,828	$38,325	70	France	1969	Grocery Retail
首农 SUNLON	State	$26,819	$26,819	100	China	1992	Trader
MERCADONA	Private	$26,671	$29,309	91	Spain	1977	Grocery Retail
PFG Performance Food Group	Public	$26,579	$47,194	56.3	USA	1885	Catering/Food service
BAYER	Public	$26,525	$43,454	61	Germany	1863	Seed/Agrochemicals
KraftHeinz	Public	$26,485	$26,485	100	USA	1869	Food Manufacturer
DOLLAR GENERAL	Public	$26,247	$34,220	76.7	USA	1939	Grocery Retail
COMPASS GROUP	Public	$25,916	$32,660	79.4	UK	1941	Catering/Food service
colesgroup	Public	$25,823	$27,842	92.7	Australia	1914	Grocery Retail
Altria	Public	$25,056	$25,096	99.8	USA	1822	Tobacco
Sainsbury's	Public	$24,659	$41,016	60.1	UK	1869	Grocery Retail
DFA Dairy Farmers of America	Co-Op	$24,500	$24,500	100	USA	1968	Animal Products: Meat & Dairy
Marfrig	Public	$24,326	$24,700	98.5	Brazil	1986	Animal Products: Meat & Dairy
YARA	Private	$23,902	$23,902	100	Norway	1959	Seed/Agrochemicals
Loblaws	Public	$23,893	$43,441	55	Canada	1919	Grocery Retail
empire Sobeys	Public	$23,396	$24,120	97	Canada	1907	Grocery Retail
C&S Wholesale Grocers	Private	$23,300	$23,300	100	USA	1918	Distributor

Unilever	Public	$22,952	$63,287	36.3	UK	1860	Food Manufacturer
Jerónimo Martins	Public	$22,732	$26,743	85	Portugal	1792	Grocery Retail
METRO	Public	$22,579	$32,255	70	Germany	1964	Grocery Retail
MITSUI & CO.	Public	$22,400	$104,713	21.4	Japan	1947	Trader, Cross Chain
CJ CHEILJEDANG	Public	$22,348	$22,348	100	South Korea	1953	Food Manufacturer
IMPERIAL BRANDS	Public	$21,644	$21,644	100	UK	1636	Tobacco
WestRock	Private	$21,257	$21,257	100	USA	2015	Paper and Forest Products
emart	Public	$21,175	$22,769	93	South Korea	1993	Grocery Retail
International Paper	Public	$21,161	$21,161	100	USA	1898	Paper and Forest Products
ASDA	Private	$20,995	$30,269	69.4	UK	1965	Grocery Retail
McDonald's	Public	$20,865	$23,183	90	USA	1940	Fast Food/ Restaurant
DIAGEO	Public	$20,516	$20,516	100	UK	1886	Drink Manufacturer
MOUTAI	Public	$20,312	$20,312	100	China	1951	Drink Manufacturer
sodexo	Public	$20,263	$21,125	95.9	France	1966	Catering/Food service
CONAD	Co-Op	$19,970	$19,970	100	Italy	1962	Grocery Retail
GRUPO BIMBO	Public	$19,827	$19,827	100	Mexico	1945	Food Manufacturer
JTI	Public	$19,697	$20,344	96.8	Japan	1985	Tobacco
NEW HOPE GROUP	Private	$19,482	$21,062	92.5	Australia	1982	Animal Products: Meat & Dairy
LAND O LAKES	Co-Op	$19,226	$19,226	100	USA	1921	Animal Products: Meat & Dairy
Asahi	Public	$19,156	$19,748	97	Japan	1889	Food Manufacturer, Drink Manufacturer

What the List Reveals – and Doesn't Reveal

While revenue doesn't capture every form of power, the Agrifood 100 offers a critical starting point for understanding who benefits from the industrial food system. What the list shows is that financial power extracted from land and labor is funneled upward through global value chains to line the pockets of those furthest removed from agricultural labor and Earth's life-giving abundance.

One goal in building the Agrifood 100 list was to create a system-wide view of the largest corporate actors in the industrial food system— or, put differently, the largest agrifood companies within the broader Agribusiness Financial Complex — and where in the supply chain they operate.

The analysis reveals a diverse spread of corporate power. The companies span 65 publicly traded firms, 23 privately held, seven cooperatives, and five state-owned enterprises. The dataset highlights the dominance of grocery retailers and commodity traders, the expanding influence of conglomerates from the Global South, and the growing revenue streams among food distributors, some of which would not have appeared on such a list just a few years ago.

More than one-third (37) of the Agrifood 100 companies operate in grocery retail, including supermarkets, convenience stores, and wholesale outlets. The high revenue of major grocery store conglomerates is particularly notable in an era of rising food prices and food insecurity, when a growing chorus of voices in civil society are calling for governments to back public grocery models that do away with corporate control over this key pinch point in the food chain.[190]

Beyond retail, the list includes 12 food manufacturers (companies that process ingredients into packaged foods), nine beverage producers (five of which are alcohol companies), and nine animal product firms (six in meat, four in dairy — with some overlap). Three companies operate catering or food service, providing prepared foods to hotels, sports arenas, hospitals, and other institutions. These include Sodexo and Compass Group, two of the three largest public school food operators (K-12) in the U.S.[191] Two of the Agrifood 100, Starbucks and McDonald's, are fast-food giants. Six companies are food distributors. One company — Deere & Co. — produces agricultural machinery and is increasingly an agricultural data giant.

Five Agrifood 100 firms are seed and agrochemical procedures; two of these companies, Bayer and Syngenta/ChemChina, primarily sell pesticides and seeds (which are often genetically engineered and coated with pesticides), and three, Nutrien, Yara, and ACFSMC, primarily manufacture fertilizers. Some of these companies are also reinventing themselves as agricultural data brokers organized around digital farming platforms.[192] Thirteen are wholesale traders of commodities like grains and oilseeds — the second-largest sector

category after grocery retailers. These include the "ABCDs of Agribusiness": Archer Daniels Midland, Bunge, Cargill, COFCO, and Louis Dreyfus. By monopolizing a key "pinch point" in the food chain, these traders have immense sway over global commodity markets, and some have financial investment arms.[193]

Unique to many analyses of food system stakeholders, our broad definition for the Agrifood 100 includes five tobacco companies and three paper/forest product firms, since non-food production of agricultural goods is also agribusiness. (Notably, the largest drivers of deforestation across the tropics are largely food commodities — cattle, soy, palm oil, coffee, and cocoa — but also timber, paper, and rubber.) Ten companies on the list span multiple core sectors in the agrifood chain showing the spread of cross-chain business strategies. That grocery retailers top the list by revenue is unsurprising given their position at the end of the value chain. Tobacco and beverage firms also show high profits due to value-added processing.

Importantly, with the exception of seed production (largely tied to chemical inputs), a minority of the Agrifood 100 firms generate primary revenue from crop cultivation, **and some of them — most notably the agro-commodity traders — generate much of their revenue from financial speculation.** This is particularly noteworthy given the failure of the current system to adequately support farmer livelihoods or community food security, and it underscores a core contradiction in the system: large firms profit from agricultural inputs and processing, trading, and selling food, and from trading in commodity futures and other financial products; at the same time, farmers — the foundation of food production — are heavily exploited by processing and trading companies, while workers throughout the system often face hunger and economic precarity.

Notably, what the list does not give is a portrait of the Agribusiness Financial Complex — i.e., the global web of financial interests that drive the system. In this sense, the Agrifood 100 is the corporate face of the industrial food system we can see. In order to shift power away from these behemoths, it is also critical to take on the financial powers lurking in the background. While there is not room in this report for a full perspective, the major shareholders and creditors behind the Agrifood 100 are identified on page 116 and 118.

The Scale Of Corporate Agrifood Power

The financial scale of the world's largest agrifood companies can rival — or exceed — major global humanitarian needs.

01 20 AGRIFOOD COMPANIES PAID SHAREHOLDERS MORE THAN THE UN ESTIMATED WAS NEEDED TO SUPPORT 230 MILLION PEOPLE.

$53.5B

PAID TO SHAREHOLDERS
by the top 20 Agrifood companies in 2021-2022

VS

$51.5B

UN HUMANITARIAN REQUIREMENT
to feed and protect 230 million of the world's most vulnerable people in 2021-2022[194]

Shareholder payouts from just 20 agrifood companies exceeded the UN's estimated humanitarian requirement.

02 WALMART MADE MORE PROFIT THAN THE WORLD FOOD PROGRAMME SAID IT NEEDED TO FEED 110 MILLION PEOPLE.

Walmart
$22B

PROFIT IN 2025
made by Walmart, the world's largest agrifood company

VS

WFP World Food Programme
$17B

REQUIREMENT FOR THE WORLD FOOD PROGRAMME
to feed 110 million people in 2025[195]

Walmart's profit was roughly **$5 billion** more than the World Food Programme's requirement to feed 110 million people.

Disclaimer: These figures describe different kinds of financial flows and are shown together to illustrate relative scale, not direct equivalence.

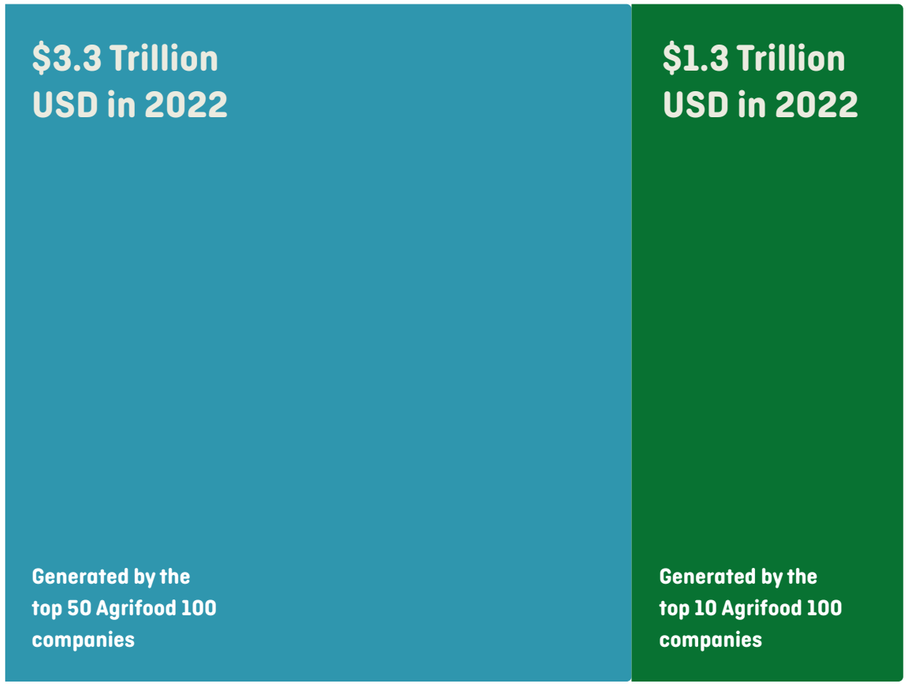
Size Matters

That just 100 companies account for half of all agrifood-related market sales globally demonstrates the deeply unequal dynamics within the food system. The top 10 companies alone generated $1.3 trillion in revenue in 2022, roughly 28% of the total agrifood revenue of the Agrifood 100. The top 50 companies generated $3.3 trillion, roughly 73% of the total. Financial power accumulates upward.

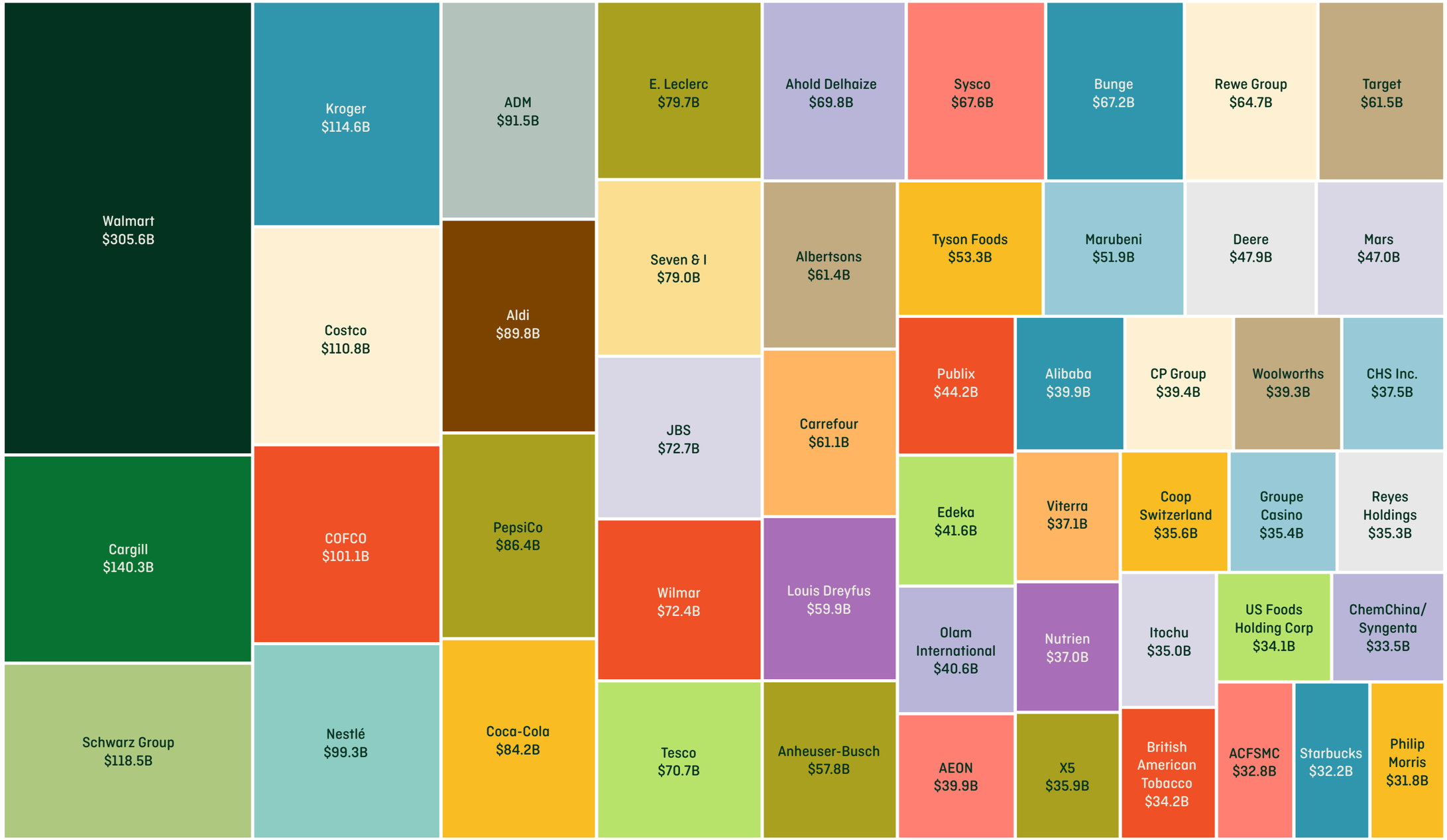
EACH COMPANY LISTED IN THE AGRIFOOD 100 EXCEEDED $19 BILLION IN AGRIFOOD SALES IN 2022, A FIGURE LARGER THAN THE NATIONAL BUDGETS OF MANY MIDDLE-INCOME COUNTRIES.

The Agrifood 100 collectively amassed approximately $4.5 trillion in agrifood-related revenue in 2022, roughly equivalent to the International Energy Agency's estimate of the investment needed to transition the entire world to clean energy by 2030.[196] Each of the Agrifood 100 exceeded $19 billion in agrifood sales in 2022, a figure larger than the national budgets of many middle-income countries.[197]

Financial Power Accumulates Upward



How Agrifood Revenue Concentrates Among the Largest Firms



Source: AgriFood100 Treemaps workbook supplied by client. Revenue values in USD; source workbook figures are in USD millions.

Geography Matters

Although they operate globally, the Agrifood 100 are overwhelmingly headquartered in the Global North. One-third (34) are based in the United States, followed by eight each in France, the United Kingdom, and Japan, and seven each in Germany and China. The dominance of U.S.-based firms is unsurprising given the country's role in exporting the industrial agrifood model, but it remains striking. The geographic concentration in G7 countries reflects a sustained and historically rooted imbalance in global power over food systems that were often built on colonial and extractive systems. This imbalance is even more significant considering that roughly 75% of global agricultural production occurs in the Global South.[198]

While G7 nations dominate the list, the Agrifood 100 also includes firms headquartered in Brazil, Thailand, Mexico, India, Hong Kong, South Korea, and Singapore. The geographic spread is likely to increase over time. The seven Chinese companies on the Agrifood 100 list reflect the country's growing global agrifood footprint. The rise of corporate giants from across the Global South signals an emerging shift toward increasing globalization and the dominance of large companies across the food system. While these firms frequently receive subsidies from national governments where they are headquartered, their allegiance is primarily to their transnational shareholders.[199]

History Matters

Historical context adds another layer to understanding the Agrifood 100. Many of the top companies were founded in the 19th or early 20th century, demonstrating the legacy of extractive colonial trade. Most of the top 10 companies (by agrifood revenue) were founded in or before 1945, with four dating back to the 1800s.[200] Thirty of the companies in the Agrifood 100 originated in the 19th century; a few trace roots as far back as the 1600s or 1700s. Official founding dates often obscure deeper histories of acquisition and concentration. For instance, Syngenta, incorporated in 2019 as a ChemChina subsidiary, evolved from Swiss firms operating since the 1750s.[201] Mondelez, incorporated in 2000, traces its roots to Kraft Foods, which was founded in 1903.[202]

These legacies matter. ***The predecessors of many leading companies gained power not through free-market superiority but through structural advantage, often including legacies of colonial extraction, labor violations, and land theft.*** In her recent book, *Titans of the Industrial Food System*, political economist Jennifer Clapp explains that the scale of these companies is not the result of their "better" market behavior but their historic privileged access to capital that allowed them to buy out competition and gain market power through strategic mergers and acquisitions.[203] This type of consolidated market power threatens market innovation and competition.

Global companies have controlled power in the food system for centuries, starting with the British and Dutch East India companies in the 1600s. But in recent decades, the trend of corporate concentration has accelerated rapidly. Today, farmers and other smaller food system actors are increasingly hemmed in by the actions of dominant industrial superpowers like the Agrifood 1000, limiting their choices of how to grow, process, and market their products and restricting their ability to pursue sustainable, just, or economically viable alternatives.

Sector Concentration Matters

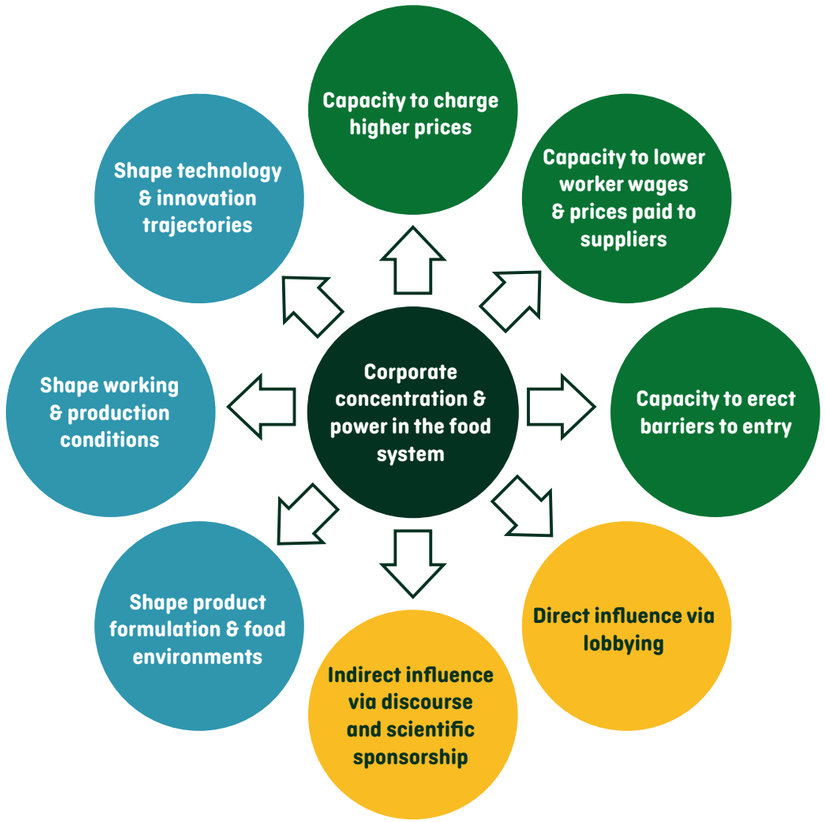
Company revenue offers a powerful lens for understanding corporate scale and power in the food system, but it doesn't tell the whole story. The Agrifood 100 provides a bird's eye view of corporate activity in sectors operating across the food system. But a deeper picture of power across the food system requires a look at the **concentration** of companies within the key sectors that put the "industrial" in industrial food system. Because there are companies that are incredibly harmful in terms of direct impacts to community and planetary health, but that happen to fall outside the 100 largest players in the industrial food system in terms of revenue, we have also provided additional data on concentration by sector.

Agrifood 100+

We complement the Agrifood 100 with additional analysis of sector-level concentration and influential companies whose power extends beyond their total revenue. Together, these perspectives provide a fuller picture of corporate influence: not only which companies are the largest, but which companies have concentrated power to shape the rules, technologies, and conditions of the global food system. Thus, we describe our overall list as the **Agrifood 100+** to encompass these additional powerful players.

Eleven additional companies come into view with this analysis of concentration. In the pesticide/seed sector: Corteva Agriscience and BASF. In the fertilizer sector: The Mosaic Company and CF Industries Holdings, Inc. In the farm machinery sector: CNH Industrial, Kubota, and AGCO. Finally, in the animal pharma sector: Zoetis, Merck & Co., Boehringer Ingelheim, and Elanco.

How Corporate concentration shapes power in food systems



- **Power to Shape Material Conditions:** Can constrain agency and choice for consumers, workers, and food producers by undermining decent work, reducing product choices, and shaping food production and consumption environments
- **Power to Shape Markets:** Can deepen inequalities that undermine freedom and agency to access food—especially for marginalized groups—by raising prices and/or reducing wages, while constraining the freedom and agency of those seeking to establish new enterprises in the food system by creating barriers to entry.
- **Power to Shape Policy & Governance:** Can constrain citizens' agency and voice in food systems policy and governance by undermining representation and democratic participation

Source: Jennifer Clapp, Rachael Vriezen, Amar Laila, Costanza Conti, Line Gordon, Christina Hicks, Nitya Rao, Corporate concentration and power matter for agency in food systems, Food Policy, Volume 134, 2025.

The economic dominance of grocery retailers, such as Walmart, Costco, Aldi, and Tesco, among others, is a relatively recent phenomenon, and civil society should newly reflect on how these supersized grocery cartels require different engagement strategies than in the past. The sheer scale of these companies, however, can prevent us from seeing other powerful actors. Smaller firms that dominate specific sectors do not appear on the Agrifood 100 list due to lower overall revenue, but they exercise crucial pinch-point power over the food system.

> **"IF LARGE-SCALE ACTORS DOMINATE AN ECONOMIC NETWORK BY SQUEEZING OUT THE NUMBER AND DIVERSITY OF SMALL AND MEDIUM PLAYERS, THE RESULT WILL BE A HIGHLY UNEQUAL AND BRITTLE ECONOMY.**
>
> **Kate Raworth, Doughnut Economics**[204]

When four firms have a concentration of over 40% in a given sector (what economists call a CR4 ratio) this level of concentration is widely recognized as an **oligopoly**, which has undeniably negative impacts on market competition and innovation. Comparing the Agrifood 100 list to 2022 agrifood sector concentration data finds that 5 of 6 seed/agrochemical firms, 9 of 13 commodity traders, 4 of 8 meat and dairy processors, and 9 of 17 food/beverage firms in the Agrifood 100 exceed widely accepted thresholds for market dominance.[205] Sector concentration data for grocery, tobacco, food service, paper, and distribution is not included in that data but is likely similarly high.

Drawing on two reports published in 2025 by GRAIN and ETC Group,[206],[207] here we add to the Agrifood 100 the largest companies across six sectors: agro-commodities, commercial seeds, pesticides, synthetic fertilizers, farm machinery, and animal pharma. All of these sectors are subject to the same **horizontal shareholding** described in the section below, though there is not space in this report to provide the relevant data.

A note on methodology

While the Agrifood 100 data disaggregates agrifood sales from total sales and uses 2022 data, the sector lists that follow, compiled by GRAIN, ETC Group, and Friends of the Earth United States, use total sales, based on 2023 data. This explains any difference in figures between the two sets of data.

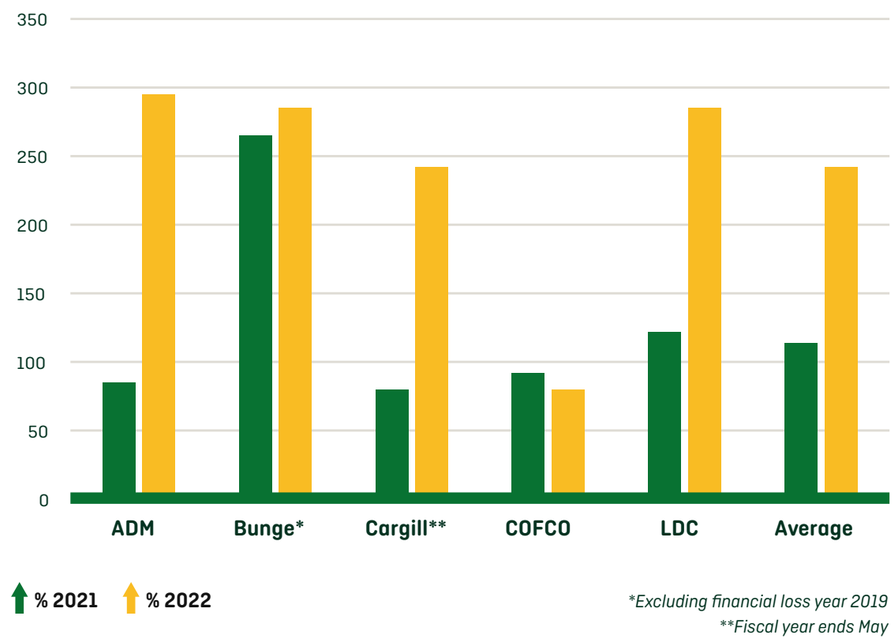
Agro-commodities

Agro-commodity traders are complex global firms that produce, transport, finance, and trade grains, oilseeds and fats, meat, livestock, sugar, etc. They are involved in all phases of production and trade, from input provision to cultivation, storage, and processing, through marketing, financing and investment, and risk management.

The scale of these companies and their infrastructure requirements (processing plants, warehouses, silos, port terminals, ships, rail cars, trucks, as well as financial instruments) virtually eliminate the possibility of new competitors entering the global market.[208] The few global grain traders that dominate the industrial food system manage the serious risks associated with climate- and geopolitical-related disruptions by diversifying routes and trading partners, as well as through commodity market speculation.

Increase of 2021 &2022 net profits compared to average 2016-2020 net profits in %

Covid-related supply shocks drove windfall profits for the dominant agro-commodity traders.



Source: SOMO[209]

These colossal firms are among the most powerful and least transparent companies in the industrial food system.[210] The value of global agricultural commodity markets is difficult to estimate, because much of the information is proprietary (meaning that it is classed as being commercially confidential) and supply chains are opaque — especially since three of the world's top-ranking agro-commodity traders are privately held and one is state-owned.

The size and nature of private food reserves tend to be proprietary secrets: Companies speculating in commodity markets have an interest in ensuring no one knows how big their stocks might be.[211] When private companies store grain, they do so to make a profit rather than to provide food to nourish human lives. Because they are motivated by profit, corporations have an interest in keeping food prices high. The big grain traders are able to influence food prices by limiting the amount of food they release onto the market. It is widely known that private stocks of grain lead to volatile food prices, while public control of grain markets can reduce such volatility.[212]

The corporate giants that control agro-commodity markets are larger than most national economies. Thus, their scale and power prevent even governments from knowing how much food is controlled by the corporate agro-commodity giants. During times of crop failure and economic collapse, this is a recipe for famine.

But for the big agro-commodity traders, hard times offer a recipe for vastly increasing profits. The graph below shows the huge increase in profit margins raked in by the ABCD's in the years of the COVID pandemic.

Table 2 below shows the top eight agro-commodity traders. As some of the world's largest vertically integrated corporations, all of these companies also appear in the Agrifood 100.

Table 2: Top 8 Companies in the Agro-commodities Sector[213]

Note: Given the diversification of these companies' operations, market share percentages are not available.

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)
1	Cargill (USA)	177,000
2	COFCO (China)	147,923
3	Bunge Global (USA) + Viterra Group (Netherlands)	114,210
4	Archer Daniels Midland (USA)	93,940
5	Wilmar International (Singapore)	67,155
6	Louis Dreyfus Company (Netherlands)	50,600
7	Olam Group Limited (Singapore)	46,903
8	Itochu (Japan)	32,118
Total Revenue Top 8		**729,849**

Source: "Grain Traders, Greed and Oligopoly Power," ETC Group, 2025

Big Meat and Big Dairy

The global meat industry, responsible for the industrial production and slaughter of massive numbers of animals, is dominated by just 10 multinational companies headquartered in five countries: Brazil, the USA, China, Japan and the European Union. The largest of these companies, Brazil's JBS, dwarfs all the others, with more than 400 branches in 15 countries. Every day, JBS slaughters up to 75,000 cattle, 115,000 pigs, 14 million poultry birds, and 16,000 lambs. The second-biggest meat processor, the U.S. giant Tyson Foods, slaughters far less, but it's still a staggering number of animals: 22,000 cattle, 70,000 pigs, and 7.8 million chickens a day.[214]

During the COVID pandemic, the four conglomerates that control U.S. beef, pork, and poultry markets — JBS Foods, Tyson Foods, Cargill, and Marfrig — saw their profits surge by more than 120%, with net income increasing nearly 500%, even as overall meat production declined.[215] Together, these Big Four companies paid out more than $4 billion in shareholder dividends in the first two years of the pandemic, while at least 59,000 meat workers got sick and hundreds died in reportedly unsafe conditions.[216]

Beyond the concerning labor conditions and the unfathomable cruelty to animals are the climate impacts: The global livestock sector is estimated to be responsible for between 12% and 19% of total human-caused greenhouse gas (GHG) emissions, making it one of the world's highest-emitting sectors.[217]

Table 3: Top 4 Companies in the Meat Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)
1	JBS (Brazil)	73,000[218]
2	Tyson Foods, Inc. (USA)	52, 881[219]
3	Cargill. Inc. (USA)	177,000[220] total sales
4	Marfrig (Brazil)	26,484[221]

Source: Annual reports

Table 4: Top 4 Companies in the Dairy Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)
1	Lactalis (France)	31,500[222]
2	Nestlé	24,100[223]
3	Dairy Farmers of America (USA)	23,000[224]
4	Danone (Switzerland)	16,580[225]
Total Revenue Top 4		95,180

Source: Annual reports

Commercial Seeds and Pesticides

The commercial seed sector refers to crop seeds (primarily proprietary field crop and vegetable seeds) sold via the commercial market and genetically modified crop traits. Farmer-saved seed and seed supplied by governments and public institutions are not included.

Without seeds, there is no food. Control over seeds is ultimately about control over the foundations of food production — and the autonomy of farmers who depend on them. A key aspect of the so-called Green Revolution that led the way to globalizing the industrial food system was the hybridization of seeds.[226] Through hybridization, seeds — a common good that had been openly shared since the beginnings of agriculture — became a viable source of capital accumulation because farmers need to re-purchase hybrid seeds each year rather than saving and replanting them. In this sense, the very basis of the industrial food system — the development of hybridized seeds — is a form of financialization. Later, corporations including Monsanto (now Bayer), Syngenta (ChemChina), Dow-DuPont (now

Corteva), and BASF expanded control over seeds through biotechnology and intellectual property protections. Genetic engineering transformed seeds into proprietary technologies, allowing companies to capture value through patents and licensing.[227]

We combine pesticides with seeds here because the two sectors have become deeply entwined — so deeply entwined in fact that the top four global seed companies are also the top four pesticide companies.

The term "pesticide" includes herbicides, insecticides, and fungicides which are different types of agrochemical products that target weeds, insects, and fungi, respectively. The top companies in commercial seeds and pesticides, Bayer, Corteva, Syngenta, and BASF control 56% of the global seeds market (Bayer alone accounts for 23% of it) and 61% of the pesticides market (see Tables 3 and 4).

Two of these multinational companies, Bayer and Syngenta, appear on the Agrifood 100 list, while Corteva and BASF do not.

(To learn more, see "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN.)

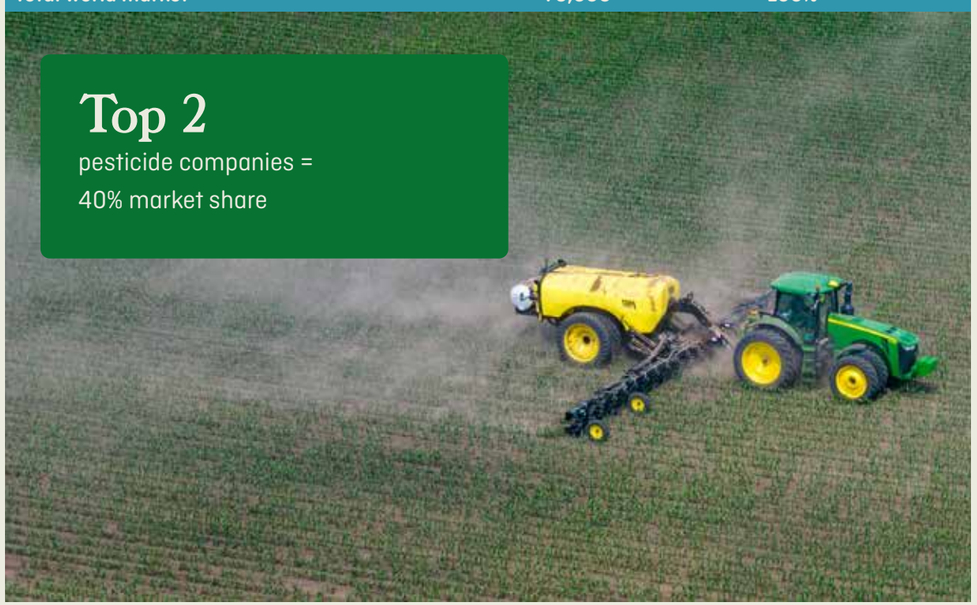
Table 5: Top 4 Companies in the Commercial Seed Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)	% GLOBAL MARKET SHARE
1	Bayer (Germany)	11,613	23%
2	Corteva (US)	9,472	19%
3	Syngenta (China/Switzerland)	4,751	10%
4	BASF (Germany)	2,122	4%
Total top 4		**27,958**	**56%**
Total world market		**50,000**	**100%**

Source: "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN

Table 6: Top 4 Companies in the Pesticides Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)	% GLOBAL MARKET SHARE
1	Syngenta (China/Switzerland)	20,066	25%
2	Bayer (Germany)	11,860	15%
3	BASF (Germany)	8,793	11%
4	Corteva (USA)	7,754	10%
Total top 4		**48,472**	**61%**
Total world market		**79,000**	**100%**



Source: "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN

Synthetic Fertilizers

Industrial agriculture is highly dependent on synthetic fertilizers. They are differentiated by the type of nutrient they contain: nitrogen in the form of urea, phosphorus (as phosphate), and potassium (as potash). These nutrients (and the fossil fuels used for nitrogen fertilizer production) are globally traded commodities, making the sector particularly vulnerable to price fluctuations and trade disruptions.[228]

The global fertilizer market is dominated by a small number of companies, and fertilizer production takes place in a small number of countries, with over 55% of global urea production occurring in four countries: China, India, Russia, and the U.S.[229]

With a market value of $196 billion, fertilizer is one of the most profitable sectors across the industrial food system, particularly at times of food price spikes.[230] The 2023 revenues of the top 10 companies were $76 billion (see Table 5), an increase of 57% compared to 2020.[231] And in 2022, they had been even higher, 130% more than in 2020.[232] The World Bank explained the spike in fertilizer prices as a result of high natural gas prices from trade disruptions.[233] But a study of the top companies found that they generated these extreme profits in 2022 by taking advantage of the war in Ukraine raising prices above the increased cost of producing goods and deepening the debt of farmers and entire countries as a result.[234]

Nutrien and Yara appear on the Agrifood 100 list, while The Mosaic Company and CF Industries Holdings, Inc. do not.

(To learn more, see "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN.)

Table 7: Top 4 Companies in the Synthetic Fertilizers Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)	% GLOBAL MARKET SHARE
1	Nutrien (Canada)	15,6732	8%
2	The Mosaic Company	12,782	7%
3	Yara (Norway)	11,688	6%
4	CF Industries Holdings, Inc. (USA)	6,631	3%
Total top 4		**46,774**	**24%**
Total world market		**196,000**	**100%**

Source: "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN

Farm Machinery

Farm machinery here refers to manufactured equipment used in agriculture like tractors, haying and harvesting machinery, and equipment used for planting, fertilizing, ploughing, cultivating, irrigating, and spraying. As farm equipment companies move toward digitalization and automation, this sector can also include their proprietary digital platforms, drones, and robotic technologies.

In the farm machinery sector, the top four companies control 43% of the global market, according to 2023 sales figures (see Table 6). Much of the focus of these companies is now on integrating AI and digital technologies — through partnerships and acquisitions — to allow for more precision, as they claim, in the application of seeds, pesticides, and fertilizers.

Of these four, only Deere & Company appears on the Agrifood 100 list.

Table 6: Top 4 Companies in the Farm Machinery Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)	% GLOBAL MARKET SHARE
1	Deere & Company (U.S.)	26,790	15%
2	CNH Industrial (UK/Netherlands)	18,148	10%
3	Kubota (Japan)	14,233	8%
4	AGCO (U.S.)	14,412	8%
Total top 4		**73,583**	**43%**
Total world market		**173,000**	**100%**

4 firms
control 43% of the global farm machinery marke

Source: "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN

Digital Agriculture: Data as the next frontier of extraction

Digital agriculture has emerged as a central pillar of the contemporary food system, attracting heavy investment from major corporate actors across agribusiness, finance, technology, and food retail. Framed as a solution to climate volatility and productivity challenges, digital tools — from farm management software and remote sensing to AI-driven analytics — are increasingly designed to extract, aggregate, and monetize agricultural data at scale. Control over data flows and digital infrastructure allows powerful firms to shape production decisions, influence input markets, and capture new revenue streams through subscriptions, platforms, and data services. Rather than democratizing agriculture, digitalization often deepens existing power asymmetries by concentrating knowledge, value, and decision-making in the hands of large corporate players, reinforcing the structural logic of an industrial, profit-driven food system.

Pesticide companies such as Bayer have played a central role in shaping the rise of digital agriculture, positioning data-driven platforms as essential tools for "precision" and "climate-smart" farming while deepening corporate control over food systems. Through acquisitions and in-house platforms — most notably Bayer's Climate FieldView — these companies collect vast amounts of farmer-generated data on soils, yields, input use, and weather patterns. This data is then aggregated, analyzed, and monetized to optimize the sale of proprietary seeds, pesticides, and services, effectively locking farmers into closed corporate ecosystems. Critically, while farmers produce this data, they do not own it. Digital agriculture thus shifts value away from farmers by transforming their knowledge and labor into extractable data assets, reinforcing market concentration and extending the industrial input–dependent model rather than addressing its ecological or economic failures.[235,236]

As ETC Group reports, the farm machinery sector is also increasingly locking agriculture into digital farming:[237]

"In 2023, John Deere acquired Smart Apply, a US precision spraying equipment company. It is developing a technology to reduce indiscriminate agrochemical spraying in vineyards, orchards and nurseries by sensing the size and foliage of individual plants and adjusting the agrochemical volume to be sprayed.[238] But while doing that, the technology will collect valuable on-farm data on pesticide application, canopy volumes, the number of trees, the health of individual trees, and other information to assess the profitability and productivity of the orchard or vineyard. Another technology John Deere is deploying, called See & Spray, uses cameras to detect weeds in farms. The company says this technology saved farmers from spraying approximately 8 million gallons of herbicide across over 400,000 hectares in 2024.[239] See & Spray is being utilised in a partnership John Deere has with Syngenta and the US-based company InnerPlant to develop genetically modified 'sensor plants' (like cotton, soybeans and maize). The GM plants will send out signals when stressed by drought, pests or fertiliser deficiencies which would then be detected by See & Spray and then treated with Syngenta's pesticides. Innerplant calls it 'the most exciting GM trait since Roundup Ready.'"[240]

Third World Network summarized powerful research by the African Centre for Biodiversity in describing the direct links between digitalized farming and financialization:[241]

"The digitalisation of African food and farming systems, including the extraction and use of data, is taking place under circumstances where smallholder farmers are mere 'data producers.' This is enabling profiteering by private corporations from the knowledge of farmers, their farms, territories, and the relationships they enjoy with the land and resources. Concerns for smallholder farmers include inequitable benefits and influence accrued from its deployment; ownership of data and how it is used; and its exclusion and marginalisation of people-environment relationships and knowledge systems.

"Digitaisation is an enabler of financialisation. The financialisation of Africa's agriculture systems, characterised by investments or financial activity that focus on generating revenue from a perceived value of a real-world asset – through interest on loans, shareholder returns, and commodity and derivative trading – has resulted in the growing corporate dominance of all elements of the food chain, reduced funding into the real economy, and an increased focus on delivering short-term returns. The consequences of financialisation include the marginalisation of human rights, particularly as relating to land access and ownership."

Digital Agriculture: Data as the Next Frontier of Extraction

Digital tools extract farmer-generated data, concentrate it in corporate platforms, and monetize it to sell more inputs, control decisions, and lock farmers into dependency.

01 DATA GENERATED FROM FARMER KNOWLEDGE AND EXPERIENCE

- SOIL HEALTH
- YIELDS
- WEATHER
- INPUTS *(Seeds, fertilizer, pesticides)*
- CROP HEALTH
- MACHINERY ACTIVITY

02 DATA IS CAPTURED

- SENSORS IN FIELD
- CAMERAS & DRONES
- SATELLITE IMAGERY
- MANAGEMENT SOFTWARE
- CONNECTED MACHINERY
- MOBILE APPS & DEVICES

CORPORATIONS COLLECT, COMBINE, AND CONTROL FARM DATA

- Store farmer-generated data
- Combine data across farms
- Analyze and predict
- Control access and use

FARMERS GENERATE THE DATA, BUT CORPORATIONS CONTROL HOW IT IS STORED, ACCESSED, AND USED.

03 FARMER DATA FUELS CORPORATE PROFIT AND CONTROL

PROPRIETARY SEEDS	Farm data helps companies design and sell seeds back to farmers.
PESTICIDES & CHEMICALS	Farm data is used to recommend and sell more inputs.
MACHINERY & EQUIPMENT	Data ties farmers to proprietary machines, parts, and services.
SOFTWARE & SUBSCRIPTIONS	Farmers pay to access the platforms built on their data.
FINANCE & INSURANCE	Farm data is used to assess loans, insurance, and eligibility.
SALES & PRICING	Companies use farm data to tailor offers and prices.
DATA PRODUCTS	Farmer data is packaged into commercial insights and forecasts.

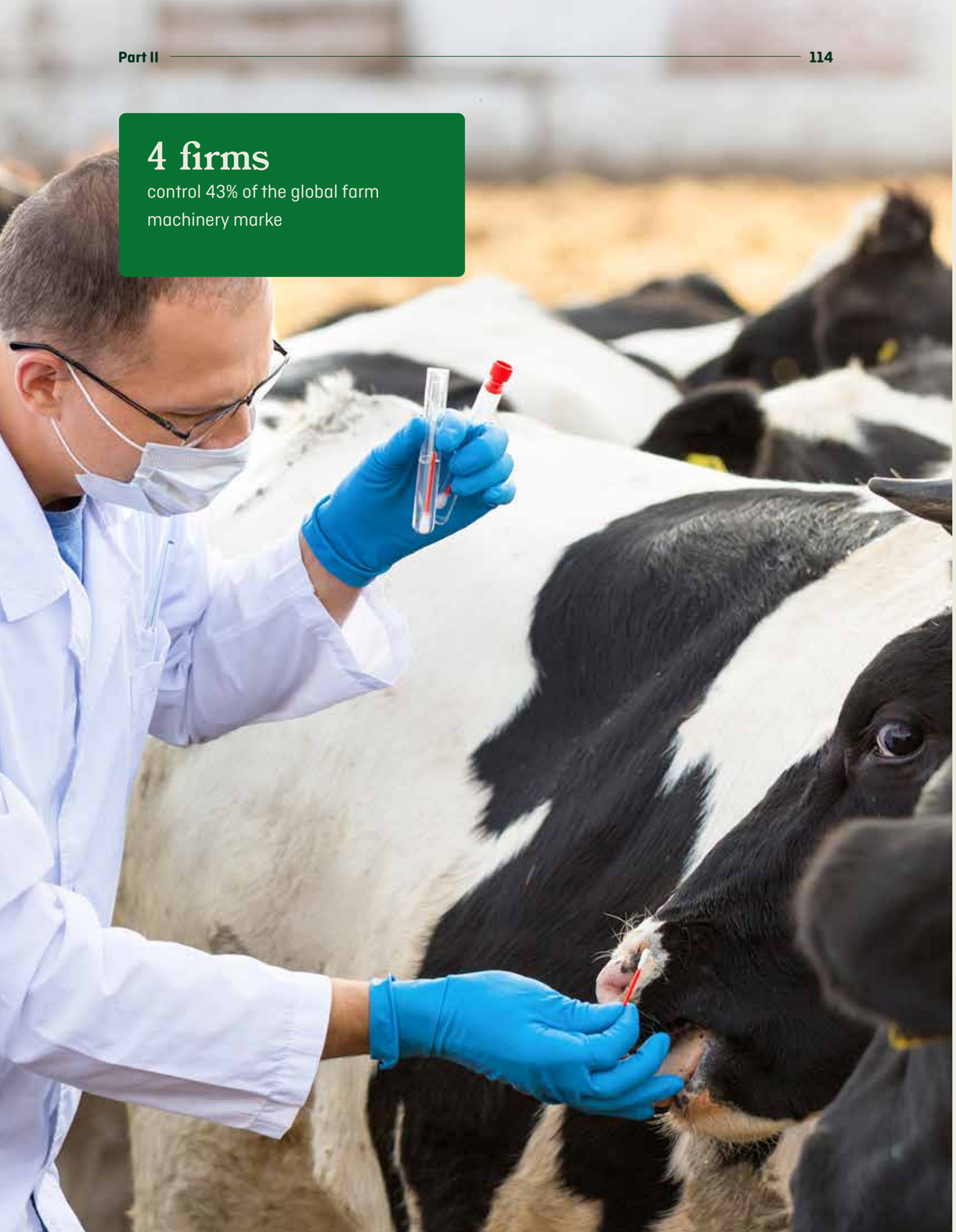
OUTCOMES ON THE GROUND

- Loss of data sovereignty
- Market concentration and corporate power
- Increased costs and indebtedness
- Reinforces an industrial, input-dependent model
- Undermines agroecology and food sovereignty

LESS CONTROL OVER DECISIONS & KNOWLEDGE ← → **MORE DEPENDENCE ON CORPORATE INPUTS, LOANS & PLATFORMS**

FARMERS GENERATE THE DATA. CORPORATIONS TURN IT INTO PRODUCTS, SALES, AND PROFIT — WHILE FARMERS FACE HIGHER COSTS, LESS CONTROL, AND DEEPER DEPENDENCE.

FLOW OF DATA → **EXTRACTION OF VALUE** - - - → **FEEDBACK LOOP OF DEPENDENCY**



4 firms
control 43% of the global farm machinery marke

Animal Pharma

The animal pharmaceutical industry includes medicines and vaccines, diagnostics, medical services, nutritional supplements (medicated feed additives), veterinary, and other related services for animal health.

Financialization in animal pharma reflects trends in the broader pharmaceutical industry: Recent decades have seen a shift in business model from one focused on productive capacity (product sales and research and development) to one focused on "intangible assets" (intellectual property, brand value, and market rights).[242] Simultaneously, a growing share of Big Pharma's cash flow is channeled to shareholders and corporate executives in the form of dividends or share buybacks.[243] As in other sectors, these trends emphasize profit over product — the ultimate goal is not animal well-being but private gain.

According to some estimates, global animal pharmaceutical sales totaled $48 billion in 2023.[244] The main markets are the U.S. (42.3%) and Europe (27.3%), where the largest companies in the sector are based.[245] In 2023, the top 10 controlled 68% of the market, with the top four companies accounting for almost half of all sales (see Table 7).

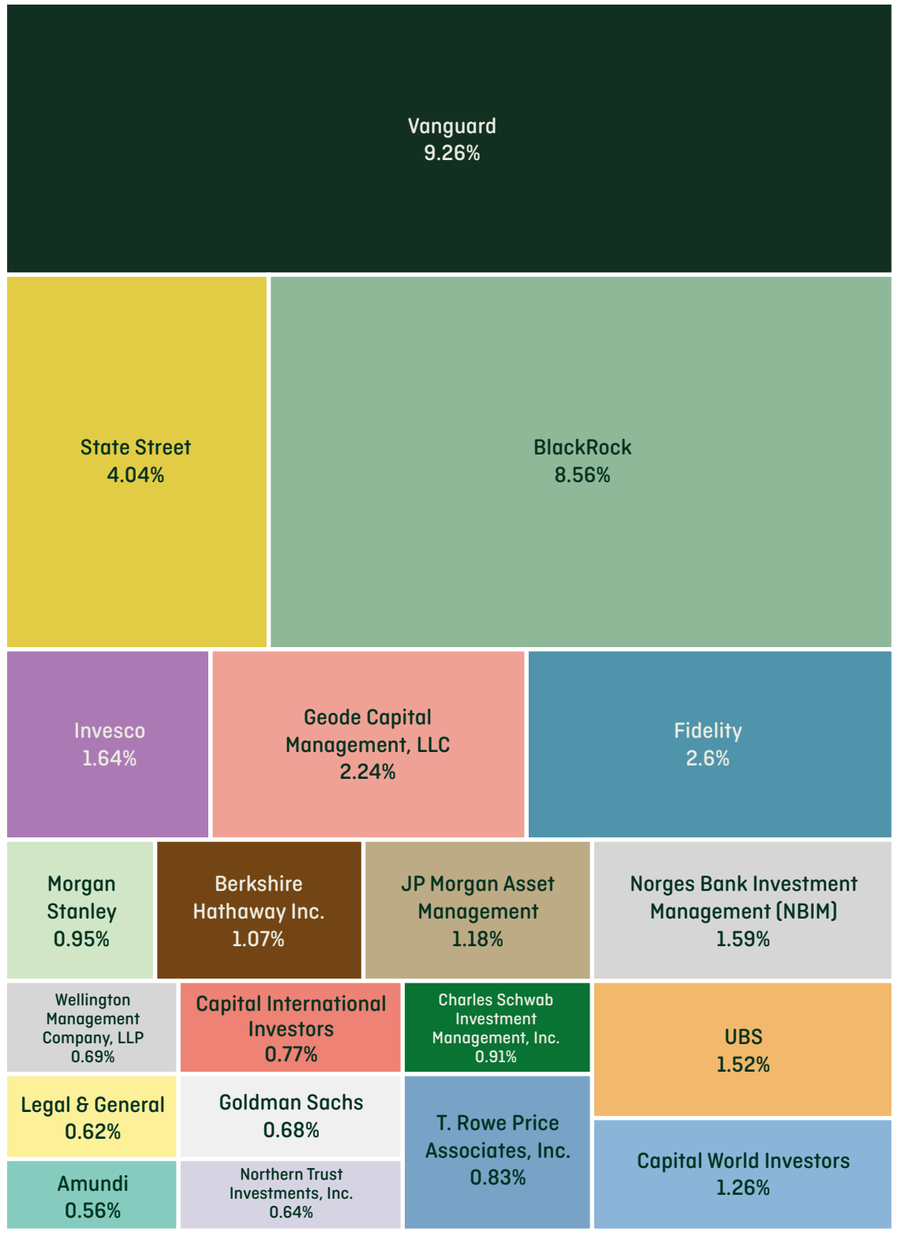
None of these companies appear on the Agrifood 100 list.

Table 7: Top 4 Companies in the Animal Pharma Sector

RANKING	COMPANY (HEADQUARTERS)	TOTAL SALES IN 2023 (US $ MILLIONS)	% GLOBAL MARKET SHARE
1	Zoetis (U.S.)	8,544	18%
2	Merck & Co. (MSD) (U.S.)	5,625	12%
3	Boehringer Ingelheim Animal Health (Germany)	5,100	11%
4	Elanco (U.S.)	4,417	9%
Total top 4		**23,686**	**49%**
Total world market		**48,000**	**100%**

Source: "Top 10 Agribusiness Giants: Corporate Concentration in Food & Farming 2025," ETC Group/GRAIN

Top Twenty Institutional Shareholders in the Agrifood 100



Source: Nikhil Ghosh, York University, based on 2026 data.[246]

Who Owns the Industrial Food System?[247]

To understand one of the ways that financialization has enabled the growth of the Agrifood 100 — and to further understand what we mean by the term "Agribusiness Financial Complex" — we need to look behind the corporate logos to the financial firms that own them and provide them credit to fuel their endless growth. At the end of the day, it is the financial interests behind the scenes that ultimately call the shots.

The ever-increasing role of financial actors and financial imperatives in controlling agriculture and land has vastly increased the corporate incentive to extract short-term financial returns at the expense of ecosystems, human rights, and dignity.[248]As we'll see below, nearly one quarter (22%) of the Agrifood 100 companies is owned (in the form of shareholdings) by just three asset management companies. Over forty percent (41%) of the shares in these companies are owned by just twenty asset managers (and one sovereign wealth fund).

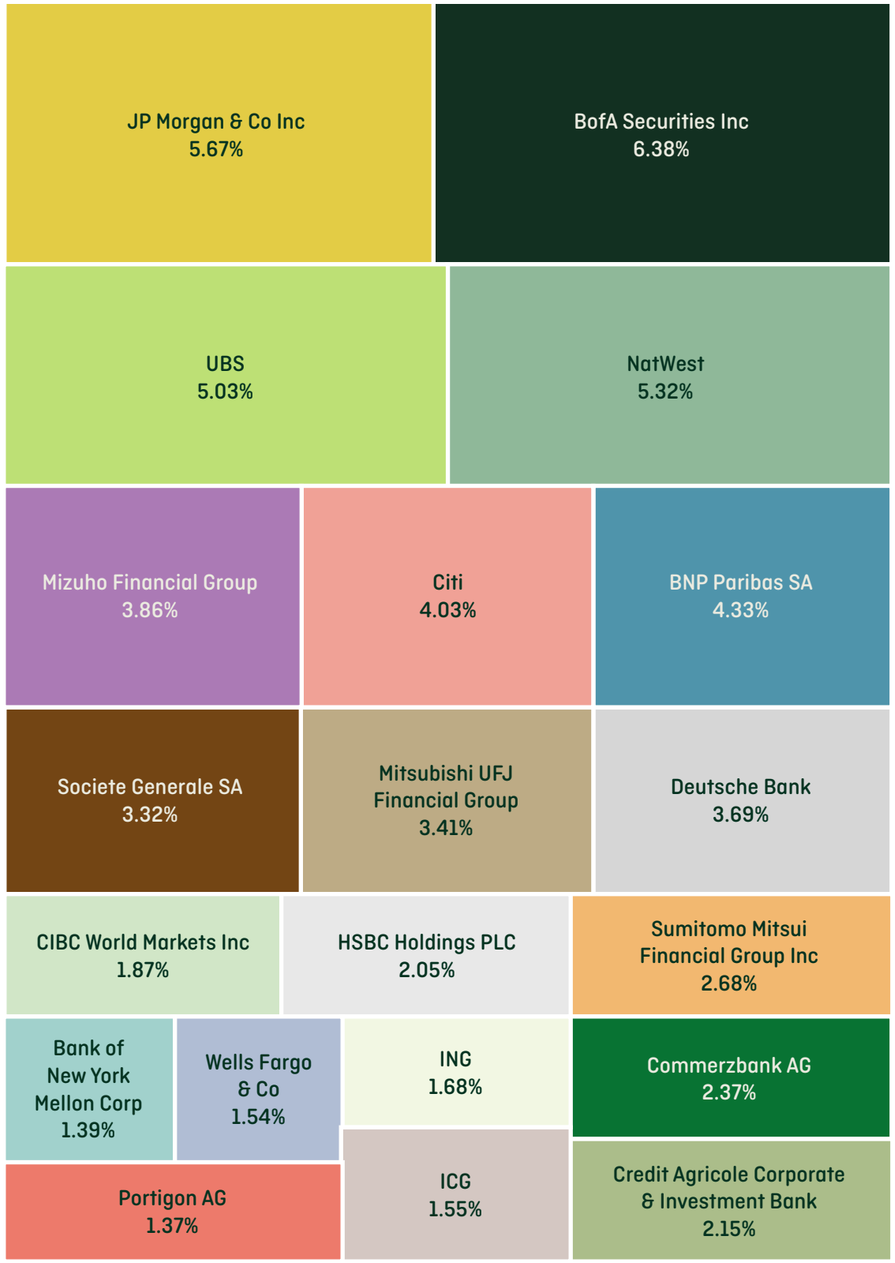
When asset management firms buy equity stakes in all of the biggest firms within a market sector, it is known as **"horizontal shareholding"** and its implications for communities and ecosystems are overwhelmingly destructive. In highly concentrated markets, competing firms held by the same institutional shareholders have little incentive to actually compete with each other, leading to practices that directly harm both producers and consumers. One anti-trust scholar called horizontal shareholding "the greatest anticompetitive threat of our time."[249]

To give just one example of the implications, a 2019 study showed that horizontal shareholding by asset management companies in the seed sector was responsible for approximately 28% of US seed price increases for soy, corn and cotton between 1997 and 2017.[250]

That example shows how concentrated control by a small group of powerful financial interests skews the market. How this same overwhelmingly financialized system destroys livelihoods and ecosystems is, in essence, the story of the Agribusiness Financial Complex.

Historically, shareholder advocacy has provided a critical avenue for corporate reform by giving individual and institutional investors a voice in shaping corporate governance practices. Today however, with the largest shareholders holding more wealth than most governments and with many governments in the throes of authoritarianism, the concentrated power of institutional ownership may be less an opportunity for leverage than a mighty obstacle to be overthrown.

Top Twenty Creditors of the Agrifood 100



Source: Nikhil Ghosh, York University, based on 2026 data.[251]

Conclusion: The Opacity is the Point

Data on corporate food systems is complex, incomplete, and often deliberately opaque. In the global industrial food system, mergers and acquisitions of and between extremely large companies are common and coordinated,[252] further entrenching their power. Lack of transparency in mergers, acquisitions, and financial flows limit antitrust regulation that is intended to keep markets fair and shield corporate power from public scrutiny and accountability. These challenges are intentional.

The problem of transparency and accountability in the industrial food system is made infinitely worse by its financialization. Many Agrifood 100+ firms — particularly the big agro-commodity traders — generate huge revenue streams from issuing loans, trading financial products, and speculating on food prices.[253] By controlling both the flows of food and the flows of finance, they hedge their market risks while profiting from the market's volatility. Furthermore, Agrifood 100+ ownership is diffuse, involving institutional investors, private equity firms, sovereign wealth funds, pension funds, or other holding companies. In this way, the financial interests of pensioners, universities, and governments are often entangled with the growth of Agrifood 100+ companies.

This is why, rather than referring to the entire system simply as "the food system," we invoke the name "Agribusiness Financial Complex."

Efforts to seek accountability for harms caused by the Agribusiness Financial Complex get easily mired in the complex layers of ownership – and so tied up with personal retirement funds, university and foundation endowments, and government sovereign wealth funds, not to mention with the foods many of us eat every day – that dismantling the system becomes unthinkable.

And yet, the planetary crises we face require nothing less.

PART III

Strengthening the Peoples' Food Web

Finance is simply a tool to move resources. It can be wielded differently. There are models and movements around the world working to reshape how finance operates, actively shifting financial flows from extractive to regenerative approaches. Many of these are rooted in ecological stewardship and community health and well-being and are deeply interconnected to the nourishing and community-centered role of food and sustainable food webs.

Section at a glance:

- There is enough wealth and productive capacity in the world to ensure that everyone has access to healthy food while restoring the planet's ecosystems. The challenge is not a lack of resources, but how those resources are governed, distributed, and invested.
- Diverse, decentralized food systems — rooted in agroecology, food sovereignty, care for the land, and community resilience — already nourish the majority of the world.
- A just transition starts with reclaiming public resources for the public good. This requires shifting the balance of power through tax justice, public investment, debt reform, and democratic control.
- Governments and multilateral institutions must align trade, climate, and biodiversity frameworks with **the right to food.**
- New finance models are emerging — community land trusts, Indigenous sovereignty funds, food cooperatives, feminist climate funds, and municipal green banks — all rooted in justice, care, and the understanding that food is life, not a commodity.
- Such practices should be carefully distinguished from more explicitly financialized approaches which continue to seek maximum returns for fiduciaries without truly putting power in the hands of those who create value in the first place.
- Just as society has recognized that public goods like health and education cannot be run solely for profit, we must extend that understanding to food.

The Good News

In a world where the myth of industrial agribusiness as essential and inevitable remains largely unchallenged in public discourse, it can feel radical to call for significant divestment from this dominant model. But when governments, investors, and communities take an honest, evidence-based look at the consequences of industrial agribusiness — from soaring food prices and rising hunger to ecological breakdown and public health crises — the need for change becomes undeniable. The Agribusiness Financial Complex has concentrated wealth for a tiny minority while externalizing harm for the vast global majority.

The good news is that better options already exist. Diverse, decentralized food systems — rooted in agroecology, food sovereignty, care for the land, and community resilience — already nourish the majority of the world. These systems reflect a different logic of food, land, and farming: one that values food as a public good, land as a living relationship, and farming as a practice that supports collective well-being rather than serving primarily to generate profit. Yet they remain vastly under-supported. Strategic targeting of financial flows (**defunding**) and of the dominating structures of finance (**definancializing**) can offer a powerful way forward: by redirecting capital away from destructive models and toward food systems that prioritize health, equity, and sustainability.

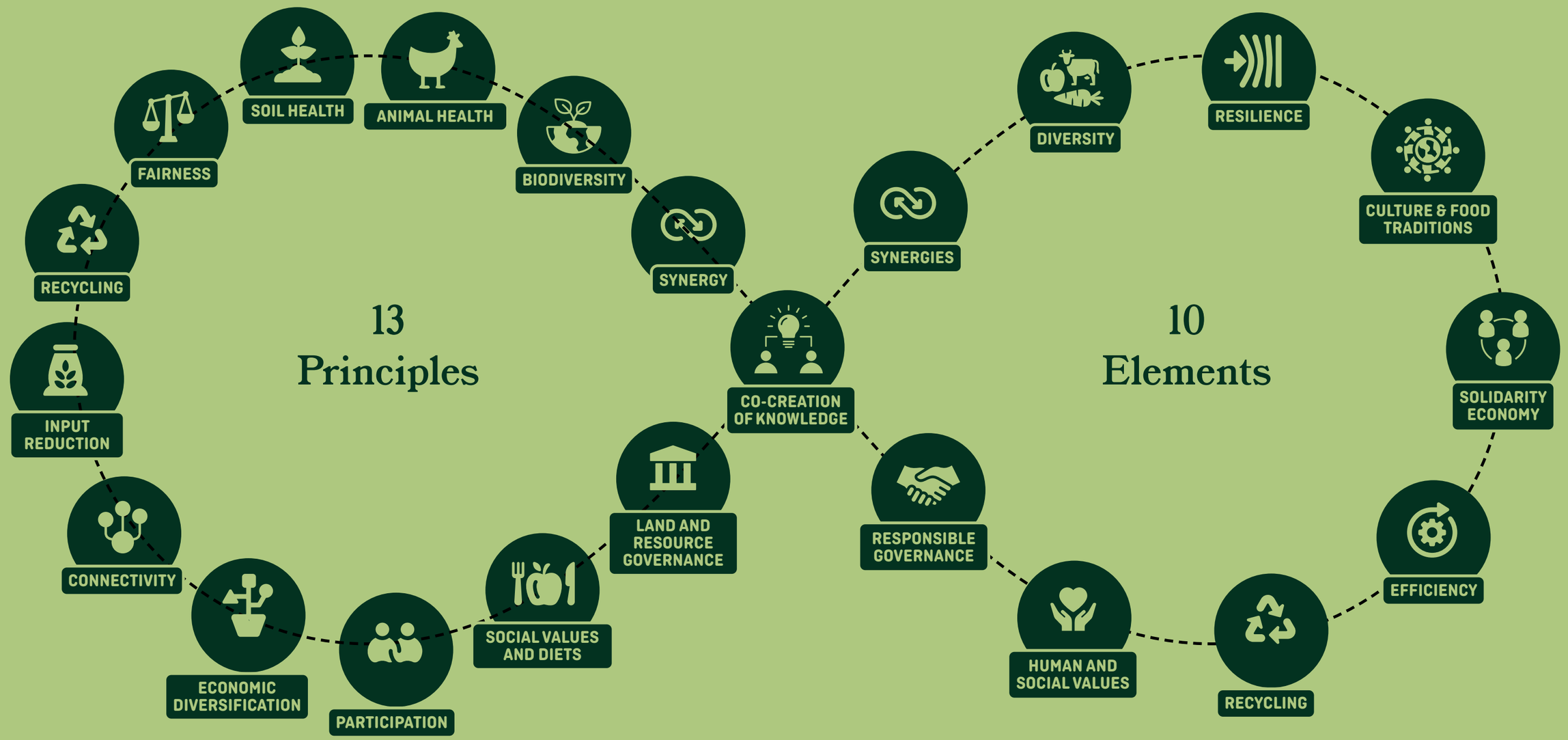
Finance is simply a tool to move resources. It can be wielded differently. There are models and movements around the world working to reshape how finance operates, actively shifting financial flows from extractive to regenerative approaches. Many of these are rooted in ecological stewardship and community health and well-being and are deeply interconnected to the nourishing and community-centered role of food and sustainable food webs.

The Principles of Agroecology

It can be a stretch to imagine a world in which industrial agribusiness and the financialized food economy give way to a more just, equitable, and ecologically integrated approach to food systems. But we have the roadmap to achieve such a world. This roadmap emerges from the intergenerational knowledge systems of peasant and Indigenous communities and the organized vision of farmers' movements, and it is endorsed by both the scientific community and civil society movements worldwide. It is called "agroecology."

Agroecology is a holistic approach to agriculture that integrates both ecological and social principles into the design, management, and evaluation of sustainable food and farming systems at a local and community scale. It unifies upstream and downstream food production systems, including the sustainable transport, storage, conservation, processing, commercialization, nutrition, and recycling of residues. This model of food production strives to operate in harmony with nature, minimizes the use of external inputs, optimizes the beneficial interactions between plants, animals, humans, and the environment, and centers farmer autonomy, rights, and agency. Agroecology is grounded in a set of principles described in the graphic on the following pages.

Agroecology- towards the transformation of food systems



Source: Graphic adapted from the Agroecology Coalition

Resourcing Food Sovereignty and Agroecology

The story that "we can't afford" to transform our food systems — a story that is referred to as **"the finance gap"** — is a myth designed to protect those who seek to continue profiting from destruction. There is enough wealth and productive capacity in the world to ensure that everyone has access to healthy food while restoring the planet's ecosystems. The challenge is not a lack of resources, but how those resources are governed, distributed, and invested. What's needed is a united effort by social movements and civil society to shift power.

As agroecologist Michel Pimbert writes, "We live in a time of manufactured scarcity in a world of abundance. The resources exist; they are simply misdirected."[254]

A major barrier in moving capital from extractive food systems to agroecological practices is the false narrative that there is no pipeline of regenerative approaches to move capital to. In fact, there are many impressive funds currently operating around the world that are actively distributing capital in alignment with this vision. These funds operate in participatory and power-transformative ways, centering resource flow and decision-making to previously harmed or marginalized communities. They invest in truly ecologically regenerative farms, organic production, farmers' markets, food markets, food stalls, food entrepreneurs, food trucks, worker-owned companies, land ownership, conservation land trusts, and more. (Unfortunately, there is not space in this report to provide detail on these funds, but future publications will hope to provide such resources.)

The opportunities to bring about change are limitless, and people and institutions worldwide are deeply committed to transforming the systems described here. Bringing to mind the broad call to action named in the beginning of this report — **Discredit, Defund, Definancialize, Rebuild & Repair** — we will briefly describe some pathways being proposed by movements for food justice, forest and biodiversity protection, land sovereignty and territorial rights. Redirecting resources away from the Agribusiness Financial Complex and toward real transformation begins with these steps:

Defund the industrial food system:

Mapping financial relationships between companies, banks, and investors can pull back the curtain on the Agribusiness Financial Complex and provide leverage points for advocacy. Companies operating upstream in the supply chain may not be very vulnerable to public pressure but can often be influenced through pressure on their investors and banks.

In recent decades, shareholder advocacy has provided a critical avenue for corporate reform by giving individual and institutional investors a voice in shaping corporate governance practices. Today, however, with the largest shareholders holding more wealth than most

governments, the power imbalance between the top financial institutions and the rest is extraordinary. Concentrated corporate wealth and ownership allows a small number of actors to exert enormous influence over agrifood systems, while many governments are struggling with democratic backsliding, weakened institutions, and subservience to powerful economic elites. Today, the concentrated power of institutional ownership may be less an opportunity to gain leverage than a mighty obstacle to be overthrown.

For philanthropists and other ethical institutions, as well as for public pension funds and other fiduciaries who seek to meet long-term sustainability goals, developing investment policies and screens that meet rigorous environmental and social standards is an important way to influence equities markets. Given the overwhelming power of the large asset managers, shifting business away from them altogether can also provide a critical pathway towards reducing their power.

Exposing the financial lending, investment, and trading practices of the big agro-commodity traders — the way these huge agrifood conglomerates generate windfall profits from financial speculation — can spur regulatory reforms. Showing which companies benefit most from the use of tax shelters and other tax loopholes — extracting money from social safety nets and putting it in the pockets of their executives and shareholders — can be a powerful way to challenge their economic control of the food system. Making the case that these corporate titans should be taxed on windfall profits, as well as for the harms caused by their business practices, is another avenue for reducing their disproportionate power.

Ultimately, the Agrifood 100+ companies are driven by financial power, and that power can be redirected. Individuals, investors, philanthropic foundations, governments, pensioners, universities, and other institutions can influence the capital flows that feed the largest and most concentrated companies in the agrifood system. Armed with the knowledge of these financial flows, we can design strategies to shift money away from extractive agribusiness and invest in systems that are just, resilient, and ecologically restorative.

Redirect public money for the public good

Every year, governments funnel more than $850 billion into industrial agriculture[255] — subsidies and tax breaks that prop up toxic, high-emission systems, deepen inequality, and drive debt and economic instability. Redirecting these funds could seed a global shift toward agroecology, land justice, and climate resilience. Policy and legislative action should center public monies on the public interest:

- Repurpose subsidies away from industrial monocultures toward agroecological production that restores soil, biodiversity, and rural livelihoods.
- Reform tax systems so that polluters pay their true costs and sustainable farmers are rewarded for ecological stewardship.
- Radically reform the IMF and other Bretton Woods Institutions to institutionalize capital controls, support public food and land governance, break up market concentration, and adopt development indicators based on human rights and well-being rather than growth imperatives.
- Invest in land reform and tenure security for smallholders, Indigenous peoples, family-scale farmer, and women farmers, and disinvest from destructive sectors and systems such as factory farms, unchecked agro-commodity exports, and industrial livestock.=
- Strengthen environmental and labor regulations to end destructive practices and protect workers and communities.
- Advocate for shifts in public procurement to prioritize local, organic, climate-friendly foods, and for public grocery stores and subsidized food programs.

These actions must be rooted in the principles of just transition, providing farmers, food chain workers, and communities with the support, safety nets, and social protection required to ensure that a transition to more resilient and reparative food and finance systems also improves working conditions and livelihoods.

Governance for the common good

Governments and multilateral institutions must align trade, climate, and biodiversity frameworks with the right to food. That means restructuring global financing mechanisms — from the UNFCCC's Green Climate Fund to biodiversity funds — to prioritize community-based food systems over fraught and misleading corporate carbon and biodiversity offset schemes. Stronger competition laws and anti-monopoly rules are also essential to ensure fair markets and fair prices for producers and consumers alike — and to restrict the ways that agribusiness firms exert market control against the interests of the public. Ultimately, public funds should be used for public provisioning — supporting school and institutional food systems, public groceries, public food hubs, territorial markets, and the entire array of popular needs.

Innovation policy must also change course. Instead of subsidizing "digital farming" platforms and proprietary biotech that entrench destructive chemical-intensive industrial monocultures and factory farms, public funds should support the real innovators: small- and mid-scale producers, Indigenous knowledge holders, and local and regional networks experimenting with agroecological methods that build resilience and nourish communities.[256]

Make the shift from scarcity to abundance

Transforming global agrifood systems is often described as a $500 billion-per-year challenge. That is a daunting figure until one recalls that governments already spend nearly twice that on environmentally harmful subsidies. As Pimbert argues, "There is no shortage of capital, only a shortage of imagination about how to use it for the common good."[257]

Indeed, the largest investors in land and food systems are not financiers — they are

the small-scale farmers and communities who make huge and under-counted investments in the food system every day. To have a full picture, especially of transformative alternatives to the current system, requires reframing "investment" to reconsider non-capitalist and non-financialized approaches to meeting peoples' needs.[258]

An approach rooted in abundance would begin by:

- Redirecting existing public funds toward re-localized and regionalized food webs rooted in circular, low-waste economies.
- Redesigning the investment priorities of philanthropies, public pensions, and other institutional investors to align capital with social and ecological well-being, reducing and ultimately eliminating investments that extract value from ecosystems and communities.
- Establishing a guaranteed livable income, living wage laws, and caps on corporate compensation.
- Reforming tax laws to access untapped sources of finance — taxing pollution, speculation, excess profits, and luxury emissions — while discouraging destructive production models.
- Constructing participatory budgets at local, regional, and national levels to give communities the power to shape how food and finance systems are governed.

Seeds of Transformation and the Fraught Question of "Reparative Finance"

Despite the concentration of wealth and power, the seeds of change are already sprouting. Around the world, new finance models are emerging — community land trusts, Indigenous sovereignty funds, food cooperatives, feminist climate funds, and municipal green banks — all rooted in justice, care, and the understanding that food is life, not a commodity. These experiments, sometimes referred to as reparative finance, point the way toward an economy of restoration and reciprocity rather than extraction and debt.

Such practices should be carefully distinguished from more explicitly financialized approaches, such as carbon offsets and other "nature-based solutions," as well as from approaches to finance that fail to challenge current power structures, such as forms of **ESG investing**, which continue to seek maximum returns for fiduciaries (in terms of capital or social/environmental good) without truly putting power in the hands of those who create value in the first place. (Notably, the ESG screens used by most "responsible" or "ethical" investors are not designed to capture most of the impacts of the industrial food system — so reliance on these screens does not, in fact, ensure "ethical" or "responsible" investment practices. Any approach to food systems rooted in human rights and just transition must go far beyond ESG metrics.)

The authors and organizations behind this report believe strongly in the need for **reparations** for historical and present harms, at all scales. Regrettably, this report cannot go into depth on this critical topic. Here, we will only note that for finance to be truly reparative — to finance through the lens of reparations — would be to de-financialize completely. Central to the notion of reparations is a call for autonomy for the victims of colonization and slavery, and for those nations, peoples, and communities who continue to pay the price for historic oppressions. In essence, finance without debt or other means of coercing adherence to the terms and conditions imposed by financiers could not really be conceived as finance.

This report can only begin to touch on the real transformations required to support just and reparative food systems. Such a discussion would necessarily distinguish between three pathways:

- the avenue of *reform*, that would seek to orient conventional finance toward agroecology;
- the avenue of *transformation*, that would reimagine finance itself under the restorative principles of agroecology;
- and the avenue of *reparations*, which would pursue agroecology as a means to definancialize the food system altogether. A reparations-based approach would advance forms of provisioning that account for historic harms and construct a new baseline of equity and social justice.

Nonetheless, the path forward begins with civil society demands for public investment and public ownership, debt relief, tax justice, and democratic control over lands and food systems. The resources are abundant, the solutions are known, and the movements are rising. What's needed now is courage and political will — to reclaim public money, to rewrite the rules, and to invest our collective energies in systems of provisioning and repair that can sustain us all.

APPENDIX A

Glossary of Terms

Agribusiness: the commercial activities involved in the production, processing, and distribution (including sale) of agricultural products and food across the value chain. Used in this report, we mean *industrial agribusiness,* the model of monocropping and highly mechanized agriculture reliant on chemical inputs (fertilizers and pesticides) as well as large-scale production, processing, and distribution centers, including concentrated animal feeding operations (CAFOs), supermarkets, and multi-region or global commercial supply chains.

Agribusiness Financial Complex: the integrated network of the *industrial food system* and the global financial systems that control agrifood and related markets (energy, water, etc.). Defining this term as a single complex emphasizes how industrial-scale farming and food trade are embedded within corporate and institutional financial structures that emphasize efficiency, profit maximization, and extraction at the expense of people and planet.

Agroecology: a holistic approach to agriculture that integrates both ecological and social principles into the design, management, and evaluation of sustainable food and farming systems at a local and community scale. This model of food production strives to operate in harmony with nature, minimizes the use of external inputs, optimizes the beneficial interactions between plants, animals, humans, and the environment, and centers farmer autonomy, rights, and agency. See the 13 principles of agroecology on pages 64-65.[259]

Agrifood: the broad domain of agricultural and food-related activities encompassing the production of food and nonfood agricultural goods, including fuel, fiber, and fodder (e.g., paper/pulp, biofuel and biomass feedstocks, oleochemicals, textile fibers, etc.), as well as storage, processing, packaging, transportation, distribution, marketing, retail, consumption, and food waste management. In the context of land use, this also includes fuel, fiber, fodder, forest products, and other nonfood outputs such as industrial oils and materials.

Asset manager: a firm or professional that manages investment portfolios or funds on behalf of clients in return for fees. Asset managers control large pools of capital and make decisions about where that money is invested, which gives them influence over corporate ownership and strategy even when they are acting on behalf of others.

Asset manager capitalism: an aspect of contemporary capitalism in which large asset management firms play a central role in corporate governance and economic organization. When a small number of very powerful firms hold significant shares across many companies, their aggregate shareholder power allows them to shape corporate behavior through ownership and voting power without directly managing those firms.

Commodities: In the context of agrifood, this means the creation of food and land-based products as "fungible goods" that are interchangeable, standardized, and traded based on price without the inclusion of social and/or ecological value. In the ***industrial agrifood system***, food and other land-based products are commodified, treated as interchangeable, and sold with primacy on market pricing. Commodification is reinforced by ***monocropping agriculture***, which mass-produces standardized crops, and by processed food, prioritizing trade over biodiversity and social welfare. ***Financialization*** further abstracts commodities by positioning physical goods as speculative investments and by linking commodity prices to global financial flows, causing market volatility.

Commodity futures: standardized contracts to buy or sell a specified quantity of a commodity at a future date, with terms fixed at the time the contract is made. In principle, commodity futures contracts allow participants to agree on a price in advance, which can help manage uncertainty. They also make it possible to trade on price movements without directly handling the physical commodity. In the early stages of agribusiness development, agribusinesses were allowed to protect against the financial risks of crop failure or market crashes – that is to "hedge their bets" – by locking in the future prices of their crops. But as the power of both agribusiness and financial markets grew, such hedging became a tool to generate profits rather than merely to protect their sale of goods.

Commodity speculation: the act of buying and selling **derivatives**—such as **commodity futures** or options contracts—on physical assets like oil, gold, or agricultural products, with the primary goal of profiting from price fluctuations rather than actually taking delivery of the goods.

The **Commons**: nonmarket, self-governed systems for managing resources (shared wealth) that provide regenerative, holistic ways to meet everyday needs. They are defined by *commoning*, the social practices and protocols a community creates to steward shared assets. In a certain sense, a commons-based approach to economics is the very opposite of financialization.

Credit Ratings Agencies (CRAs): organizations that assess the creditworthiness of governments, companies, or financial instruments. These agencies evaluate how likely it is that a borrower will repay debt, and their ratings shape access to financing by influencing interest rates and investor confidence. CRAs are paid by the companies issuing the debt, not the investors who use the ratings; this creates a conflict where agencies might fear losing clients if they provide low ratings. Furthermore, three CRAs (Moody's, S&P, and Fitch) dominate the market, contributing to a crisis of accountability.

Definancialize: the act of deliberately resisting and reducing the power and influence of financial markets and institutions in order to support social justice and ecological goals. This means reducing or removing the influence and dominance of financial motives, actors, and

mechanisms from a sector, activity, or economy. Definancialization is framed in opposition to "financialization" (see below), which is the increasing role that financial markets and institutions play in controlling social and economic structures. In agrifood systems, definancialization means, for example, shifting away from a system in which land, food, and agricultural production are seen as financial assets to a system that puts human rights and the public good at the center – and therefore focuses on food sovereignty, sustainability, and farmer livelihoods as part of the "real economy." Definancialization also includes shifting away from the regime of ecosystem services markets, including carbon offsets, biodiversity credits, and the securitization of soil.

Defund: the act of intentionally removing or reducing capital from an institution, program, or sector as a means of driving systemic change or accountability. In the context of financial activism, defunding is a deliberate strategy aimed at redirecting resources away from entities or practices that may be considered harmful, unjust, or misaligned with social, environmental, or ethical concerns.

Derivatives: financial instruments whose value depends on the performance of an underlying asset. In essence, a derivative is a contract linked to something else, such as a commodity price or interest rate. Its value changes based on that underlying reference, which allows it to be used for managing risk or for speculative investing on price fluctuations.

ESG investing: a market-based investment strategy focused on evaluating companies based on Environmental, Social, and Governance risks and impacts – i.e., their ecological impact, labor and human rights practices, and ethical leadership. ESG investing goes beyond financial metrics to measure long-term resilience and risk, often used to align portfolios with values such as climate action or social justice. However, the ESG screens used by most "responsible" or "ethical" investors are not designed to capture most of the impacts of companies within the industrial food system — so reliance on these screens does not, in fact, ensure "ethical" or "responsible" investment practices. Any approach to food systems rooted in human rights and just transition must go far beyond ESG metrics.

Financial activism: deliberate activities and campaigns to strategically leverage financial power to drive social, environmental, or political change. Financial activism as meant in this report is generally used to attempt to shift capital flows away from systems and practices that cause harm (e.g., environmental destruction or injustice) and toward those that foster collective well-being, equity, justice, and sustainability. Some mechanisms of financial activism include collective wealth building, democratizing finance, shareholder activism, divestment campaigns, impact investing, and consumer boycotts.

Finance: the management, creation, movement, and study of money and investments. Financial flows are the ways that money (sometimes called "capital") is moved around by different stakeholders through borrowing, investing, saving, or spending. ***Financial instruments*** are the legal contracts that control how capital flows. These can be "cash," with value determined directly by the market (such as stocks, bonds, loans, or deposits) or "derivatives," which are based on speculation (betting) of underlying assets (such as options, futures, or swaps). In traditional finance, ***financial power*** generally lies in the ability of the capital holder (the wealthy) to determine key components that influence financial flows, including investment ***value***, ***risk***, and ***returns***. ***Food system finance*** includes all the aspects of finance that interact with food systems, including subsidies, grants, loans, credit, insurance, commodity markets, etc.

Finance gap: The term "finance gap" simply refers to the shortfall between available capital and the investment needed to meet specific goals (e.g., climate, development). In the context of development, however, the term is used in a way that can oversimplify complex systemic issues and obscure political choices. Focusing on a "gap" can frame the problem as a lack of money rather than a failure of political will or unjust distribution of existing wealth. It can normalize an approach to development that prioritizes investor returns (that is, profit) over development outcomes (that is, human and ecological well-being).

Financialization: The increasing role of financial motives, markets, actors, and institutions in economic and market activities at the expense of traditional production and social well-being. This includes financial domination of decision-making in business strategies, corporate behavior, or public policy that prioritizes short-term shareholder value and financial returns over long-term public well-being. This also includes increased profit-making from the buying, selling, or trading of financial instruments (stocks, bonds, derivatives) instead of manufacturing or services. The increasing concentration of corporate power and control in the global food system has been attributed to financialization.[260]

Food regime: a period of time notable for specific configurations of agriculture, trade, and food consumption patterns linked to particular configurations of geopolitical power. Historians characterize three global food regimes in the past 150 years, which include these: 1) the *colonial food regime* (~1870-1914) with the European imports of agricultural products from settler colonies, supporting European industrial growth; 2) the *industrial food regime* (post-World War II-1970s), characterized by the rise of industrial agriculture, manufactured foods, and global agribusiness; and 3) the *contemporary neoliberal food regime*, sometimes referred to as the "corporate food regime," characterized by the dominance of global companies, food system financialization, and increasing concerns of system vulnerability due to concerns of planetary and human health and long-term sustainability.

Food system: the interconnected systems and processes that influence nutrition, food, health, community development, and agriculture (including but not limited to commercial processes). The food system includes all processes and infrastructure involved in feeding a population, such as growing, harvesting, processing, packaging, transporting, marketing, consumption, distribution, and disposal of food and food-related items, as well as the political and cultural processes surrounding food.

Food sovereignty: According to La Via Campesina, the international movement focused on uniting and defending peasant agriculture for food sovereignty, food sovereignty is the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and companies. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users."[261]

Green Revolution: a mid-20th-century model of agricultural development based on hybridized high-yield crops, industrial-scale irrigation, and chemical inputs. The Green Revolution period is associated with major increases in crop yields, alongside the expansion of input-intensive farming systems that rely on fertilizers, pesticides, and patented, standardized seeds. Proponents of the industrial food system view the Green Revolution as a great leap forward for humanity; widespread criticism, however, highlights that reliance on chemical inputs, reduced biodiversity due to monoculture, and increased water consumption have driven severe environmental degradation (soil damage, water depletion, pollution) and negative social impacts, including economic inequality benefiting large-scale corporate farms over smallholders.

Horizontal shareholding: when a group of investors or financial funds own significant stakes in competing companies within the same industry. This practice, a key pillar of financialization, harms consumers by reducing market competition and increasing prices. It also puts decisions over food, land, and territories into the hands of a few extremely powerful financial institutions, directly undermining food sovereignty and the public good.

Industrial agriculture: a technoscientific form of farming characterized by large-scale production of crops and animals using technology, machinery, and chemical inputs to maximize yields and efficiency. The primary goals of industrial agriculture are to maximize production and profits through economies of scale. This is done through monoculture crop production, often with genetically engineered seeds (GMOs): mechanization and chemical inputs (including synthetic fertilizers and pesticides, a term which includes herbicides); extensive irrigation systems; and concentrated animal feeding operations (CAFOs).

Industrial food system: the large-scale network of food production, processing, distribution, and sales, with a focus on increasing efficiency and reducing cost. Characterized by a reliance on industrial technologies generally reliant on synthetic inputs, as well as mass production, global supply chains, and economic concentration, this approach prioritizes standardization and volume over community, cultural, or ecological considerations. In addition to ***industrial agriculture*** production methods such as use of agrochemicals, big data, and GMOs, industrial food may be heavily processed and often includes additives, preservatives, and packaging that alter the raw ingredients. The system is controlled by a small number of transnational corporations and is known for negative impacts such as health and environmental harms, human rights violations, eroding local food cultures, weakening rural economies, and disconnecting people from traditional food practices. Also referred to as the ***industrial agrifood chain,*** the system is often presented as a linear commercial "chain" of custody from farm inputs to consumption.

International Financial Architecture: This refers to the global framework of institutions such as the International Monetary Fund (IMF), the World Bank, and other multilateral finance institutions, as well as the rules, standards, and practices that govern international finance. While designed to manage global financial flows, the current international financial architecture is widely seen as a systemic engine of inequality, debt, and ecological crisis, long overdue for radical reform.

Land grabbing: The term "land grab" is a broad concept used to refer to the unjust acquisition or control of land that harms people and the planet. Land grabs do not always involve illegal activity, but regardless of legal questions, generally speaking, land grabbing increases land inequality and denies access to land for people who need it for their livelihoods. Land grabbers often take advantage of communities whose legitimate customary tenure rights to land may not have been recognized by a country's legal system. In many countries, land grabbing may involve fraudulent documentation, violence, or threats, but not always. Land grabs are often led by corporate actors and individuals working together to control land, water, profits, and other resources at the expense of communities who live, work on, and use the land. Some land grabs are for purposes of land speculation that makes land a financial asset in order to profit from its limited availability while destroying other meaningful relationships of people to land. Land grabs for industrial agriculture do not increase food security, because with the right access to resources, small diverse farms can make food more widely accessible where it is needed. Concentrating control of land into fewer hands to produce international agricultural commodities like animal feed and biofuels is wasteful, harmful to the planet, and threatens people's access to livelihoods and food.

Land justice: Both a movement and framework that seeks to address and repair the historic inequalities and injustices of land ownership, access, and governance, land justice recognizes that land is not a commodity but is a source of life, culture, power, and community well-being. It shifts power and resources to historically marginalized communities (particularly Indigenous, Black, and communities of color) to exercise self-determination, stewardship, and healing in relation to land.

Peasants: The UN Declaration on the Rights of Peasants (UNDROP) defines peasants as "a man or woman of the land, who has a direct and special relationship with the land and nature through the production of food or other agricultural products. Peasants work the land themselves and rely above all on family labor and other small- scale forms of organizing labor. Peasants are traditionally embedded in their local communities and they take care of local landscapes and of agro-ecological systems. The term can apply to any person engaged in agriculture, cattle-raising, pastoralism, handicrafts related to agriculture or a similar occupation in a rural area. This includes Indigenous people working on the land ... [and] also applies to the landless."[262]

Peasant food web: a multifunctional food system that is not primarily organized around commercial priorities and encompasses and balances other food system priorities, such as economic, social and cultural rights, biodiversity, resilience, and community cohesion. The web metaphor emphasizes the reciprocal and nonlinear relationships between elements of that food system, such as agroecological connectivity between producers and consumers and connections between ecosystems and cultures.

The term "peasant food web" describes the small-scale food producers, usually family- or women-led, that include farmers, livestock-keepers, pastoralists, hunters, gatherers, artisanal and traditional fishers, Indigenous people, and urban and peri-urban food producers and vendors, whose presence is common throughout most of the world but marginal in most of the Global North. Our definition includes not only those who control their own production resources but also those who work for others to produce and supply food, and who have often been dispossessed of their land. Depending on season and opportunity, peasant farmers may also be fishers or pastoralists, as well as hunters and gatherers, and urban peasants may have fish ponds and small livestock, as well as outside employment. Peasants may move back and forth between food production and urban jobs for environmental and socio-economic reasons or be forced to migrate far from the lands they know. It is important to remember that peasants are by no means always self-sufficient and sometimes purchase food from the industrialized agrifood system, and that the reverse is also true. They may or may not grow all their own food, trade with neighbors, and sell the surplus in local markets. While growing all they can under difficult conditions, peasant farmers remain resilient, in

spite of the challenging and unjust economic terrain placing undue pressure on their own households. An important dimension of the "peasant food web" is the collective nature of agricultural practices which often underlies a collective sense of identity. Many peasant communities also hold multiple identities: Indigenous, Afro-descendent, Maroon, *quilombolo*, or other historical cultural and ethnic designations. No single word adequately describes the range of peoples and livelihoods encompassed by the Peasant Food Web.

Peoples' Food Web: we use the term Peoples' Food Web to encompass a global vision that both centers peasant rights, livelihoods, and food sovereignty where these systems remain foundational while also recognizing the diverse movements working to uproot and transform industrialized food systems and build more democratic, equitable, and ecologically resilient alternatives. While these communities differ in their histories, cultures, and relationships to markets, they are united by many of the same structural challenges around corporate concentration, low prices, loss of autonomy, and policies that prioritize industrial agriculture over people-centered food systems.

Provisioning: Within an economic framework based on common-pool resources, or "the Commons," provisioning refers to a decentralized, community-driven approach to producing and sharing resources outside the market-state system, focusing on self-organization, trust, and ecological sustainability.

Race to the bottom: a key impact of global financialization, where countries compete to attract multinational investment by lowering labor, environmental, and tax standards. While aimed at boosting economic growth through foreign direct investment (FDI), this competition often causes weakened worker safety, ecological degradation, and reduced public revenue.

Racial capitalism: the process of deriving social and economic value from disparities in racial identity, wherein capital accumulation relies on the exploitation, racism, and devaluation of non-white bodies. An understanding of racial capitalism recognizes capitalism and racism are mutually dependent, inseparable forces that emerged together to create a modern system of exploitation.

Real economy: the part of the economy that deals directly with the production, distribution, and consumption of tangible goods and services. This is positioned in opposition to the ***financial economy***, which focuses on financial assets and secondary markets, including speculative activities such as trading stocks, bonds, or derivatives. The real economy is what people experience in their daily lives and is the foundation of economic life through the creation and exchange of real value rather than speculative or financial transactions.

Reparations: purposeful financial and systemic measures aimed to make amends for historical injustices (including colonialism, land theft, genocide, slavery, segregation, and

systemic racism) by providing direct compensation and policy reforms to affected communities. This can be done through monetary compensation and investment, restitution and land redistribution, structural changes and policy reforms, and strategic interventions to redistribute wealth and repair economic and social harms.

Right to food: The human right to unrestricted access to adequate, safe, and culturally appropriate food, as recognized under international law, primarily enshrined in Article 11 of the International Covenant on Economic, Social and Cultural Rights, it mandates that every person has physical and economic access at all times to adequate food or the means for its procurement, ensuring a life free from hunger.

Shareholder primacy: the widespread and dominant belief that a company's primary objective should be to maximize **shareholder value** – i.e., the wealth of its shareholders. This translates to a focus on maximizing profits and returns for those who own shares in the company, while often leaving behind the social good.

Shareholder value: the financial return generated for a company's shareholders, typically measured through stock price. The dominant view holds that shareholder value is the sole or primary determinant in corporate well-being; however, this view neglects broader social and ecological concerns.

Speculation: the practice of investing in assets or contracts in order to profit from changes in price. Speculation involves making bets on how prices will move, rather than producing or using the underlying good. Speculation in **commodities** and **derivatives**, detached from activity in the **real economy**, is a key aspect of **financialization** which drives market volatility and social unrest.

State capture: A form of systemic, high-level corruption where private interests (businesses, oligarchs, or politicians) manipulate a state's decision-making, laws, and institutions to their own advantage, it involves hijacking policy formation to secure monopolies, contracts, or impunity, often subverting democratic processes for personal or corporate gain at the expense of public welfare.

Territorial food systems or **Territorial markets**: place-based networks of noncorporate food production, processing, distribution, consumption, and waste management that are organized within specific geographic boundaries, emphasizing values of local integration, sustainability, social equity, and resilience through the process of collaboration among diverse stakeholders and the use of agroecological principles (see **Agroecology** above). Sometimes referred to as ***local food systems***, these food webs operate largely or fully outside of corporate chains and are characterized by shorter food chains.

Value chain: the linear sequence of activities and actors involved in moving a product from production to final consumption, with value added and/or extracted by different market actors at each link in the chain.

Whole systems approach: a problem-solving and planning framework that addresses complex, interconnected issues by treating them as complete, dynamic systems rather than isolated parts. It brings together diverse stakeholders to understand root causes, map relationships, and design sustainable, long-term interventions.

APPENDIX B

Methodology for the Agrifood 100 data collection and analysis

The goal of this research was to identify the 100 largest commercial entities by agriculture and food-related sales (revenue) across the global agrifood value chain. On the following pages, we present the rationale and methodology employed to develop the Agrifood 100 list.

Developing the List

For the purposes of this research, our aim was to identify the largest commercial players in the agrifood system. To determine agrifood-related company size, we disaggregated agrifood-related sales for companies that sell a wide variety of products. In seeking to produce a defensible list of the largest commercial actors in the industrial food system, we prioritized revenue data – not profits or market share – because it allows for product-specific analysis, including for companies with diverse business segments. Where possible, we disaggregated agrifood sales from other revenue sources. For 59 of the 100 companies (including eight of the top 10), we were able to isolate agrifood revenue from other streams. For example, agrifood accounts for just 53% of Walmart's total 2022 revenue, yet that makes Walmart the Agrifood 100's highest-grossing agrifood company.

In some cases, the entire annual revenue of a company could be attributed to agrifood-related sales.[263] In cases where disaggregated data was unavailable – for example, when a company's textile sales were grouped with the sales of home goods and cosmetic products – we used conservative estimates or excluded ambiguous categories altogether. This means our dataset is a low estimate of actual food-related revenues, particularly for diversified firms like Amazon and Alibaba.

Note that this list does not provide insights on company profits or sector concentration, though these are also important aspects of financial power. There are many valuable resources that discuss corporate concentration and extraction within the food system in more detail.[264]

Why We Used 2022 Data

We used 2022 revenue data because it was the most recent available at the start of our analysis in late 2024. Companies often revise their revenue claims, sometimes with long delays. Therefore, 2022 data was determined to be the most accurate at the time the research was undertaken.[265,266] It is important to note that 2022 reflects a volatile and revealing year for industrial agribusiness. The Russian invasion of Ukraine and lingering effects of COVID-19 disrupted supply chains, drove food price spikes, and delivered record profits to commodity traders and fertilizer producers. Fertilizer firms, in particular, experienced unprecedented growth with profits rising more than 130% compared to 2020.[267] Commodity traders may have capitalized on volatility through speculation and stockpiling, further increasing their profit margins and entrenching their dominance.[268]

Navigating Complex, Opaque Data

Compiling agrifood revenue data was challenging, especially for private firms and diversified companies with inconsistent or obscured reporting. Even for publicly traded companies, revenue streams may be scattered across a global spread of subsidiaries or legally separate

companies selling the same products in geographically diverse areas.[269] Some multinationals are themselves operating as subsidiaries to holding companies of various structures that include investment firms, private foundations, or institutions – some state-owned, some privately held – all of which have different, often protected, revenue reporting requirements.[270]

The financial data industry itself is becoming more privatized and less transparent. Some datasets previously accessible to our research team are now gated behind paywalls or entirely restricted. Standard accounting practices suggest that parent companies report consolidated revenues from subsidiaries, but we cannot guarantee completeness for every case. Where ambiguity existed, we chose the lower estimate.

In a few cases, we relied on percentage-based estimates from prior years applied to 2022 data. We also had to exclude entire sectors (e.g., textiles, pharmaceuticals) when data was too deeply embedded in broader categories. Despite these limitations, the Agrifood 100 offers a powerful snapshot of who holds financial control in the global food system at a moment in time – and how their dominance fuels the industrial food system's most harmful dynamics.

Context Scope and Definition

For the purposes of this research, the agrifood value chain was identified as the full "chain" of industrial activities that generate commercial value arising from either a) agriculture and associated activities, including forestry, fishing, aquaculture, hunting, gathering, etc., or b) "food," including food processing, retail, provision (restaurants and catering), etc.

The scope of this investigation also included tracking commercial use of agriculturally derived (renewably grown) goods that may not be "food" as an end use, such as natural textiles, wood, pulp and paper, biomaterials, and biofuels. It did not include mineral extraction, inorganic chemical products, or pharmaceutical products other than agricultural inputs. For example, pharmaceuticals used in the industrial production of livestock were not included, as they were too difficult to disaggregate from medical-use pharmaceuticals.

This "beyond food" scope aligns with the FAO definition of agrifood systems adopted in 2020: "The agrifood system covers the journey of food from farm to table — including when it is grown, fished, harvested, processed, packaged, transported, distributed, traded, bought, prepared, eaten and disposed of. It also encompasses non-food products that also constitute livelihoods and all of the people as well as the activities, investments and choices that play a part in getting us these food and agricultural products. In the FAO Constitution, the term 'agriculture' and its derivatives include fisheries, marine products, forestry and primary forestry products."[271]

Data

For the purposes of this research, corporate sales were noted through annual reported rev-

enue. As this research began in the fall of 2024, it was determined that 2022 revenue would provide the most recent data available for all companies. Companies often revise their revenue claims, sometimes with long delays. Therefore, a reliance on 2022 data was determined to be the most accurate.

Data collected for all companies included the following points:[272]

- Company name
- Company type (public/private/state/cooperative)
- Total 2022 revenue in US $ millions
- Agrifood-related 2022 revenue in US $ millions
- See Data Analysis for agrifood-related revenue identification/computation process.
- Data source
- Company headquarters country
- Company summary
- Incorporation date
- Sector
- Subsector
- 2022 Market Cap (if applicable)
- Categorization codes (including ISIN, SIC, NACE, and NAICS codes when applicable)
- Company website URL
- Notes, including any data collection issues, relevant acquisitions or mergers, etc.
- Parent company (if company is a subsidiary)*

Data Collection

The data collection process followed the following steps:

1. The initial dataset began by updating a draft 2020 Group of 100 list that was developed by Friends of the Earth United States. The 2020 dataset was updated to include revenue for 2022 figures, noting any changes such as company acquisitions and mergers, etc. These updates included data on each company's 2022 revenue and agrifood-related revenue.
2. This initial list was expanded by adding any companies listed in a 2022 corporate food research set produced by ETC Group and Adasina Social Capital[273] that were not already in the database. As ETC Group/Adasina's dataset is inclusive of agrifood-related sales, those figures were used for the agrifood-related revenue for relevant sectors of the companies listed, and ETC Group/Adasina was noted as the data source for those figures.
3. From this updated list, an analysis was conducted of all the sectors included in the dataset thus far. A comprehensive screen was run for all companies that were listed as primary industries in relevant sectors. Initially, this data collection scan began with a threshold of $10 billion in revenue, moving to a scan of revenues greater than $15 billion as it became clear that the agrifood-related sales for the top 100 companies would be significantly above the $10 billion threshold.

The data collection scan included companies listed as operating as primary industries in any of the following sectors, with a 2022 revenue higher than $15 billion:

- Agricultural and Farm Machinery
- Agricultural Products and Services
- Apparel Retail
- Brewers
- Consumer Staples Merchandise Retail
- Distillers and Vintners
- Fertilizers and Agricultural Chemicals
- Food Distributors
- Food Retail
- Forest Products
- Packaged Foods and Meats
- Paper and Plastic Packaging Products and Materials
- Restaurants
- Soft Drinks and Nonalcoholic Beverages
- Timber
- Tobacco

Note: While companies listed with primary industries in Biotechnology, Broad Retail, and Pharmaceuticals were included in the draft lists generated by steps 1 and 2 above, they were not ultimately included in the broader data collection scan or database, as those sectors were determined to be too broad to be able determine an accurate agrifood-related revenue for those companies.

Once the full list was determined, the revenue for any "like" companies was combined, even if they technically operated through separate corporate structures. For example, revenues for companies structured separately but selling the same products in geographically diverse areas were combined.[274] In addition, subsidiary companies were combined, and standard accounting practices for parent-subsidiary relationships – e.g., that subsidiary company revenues are incorporated in the revenue reporting by parent companies – were assumed.[275]

Determining Agrifood-related Revenue

The agrifood-related revenue was determined for all companies in the dataset formed by steps 1-3 above with a 2022 revenue higher than $15 billion. Calculations and citations for the computation of agrifood-related revenue for each company are available upon request.

1. If it could be determined that a company's sales were fully inclusive of agrifood-related revenue, that figure was noted.
   a. All companies listed as having a revenue fully inclusive of agrifood-related revenue were verified by 2020 company self-reported data to the World Benchmarking Alliance.[276] If companies self-reported data lower than 100% of sales as food-related revenue, the agrifood revenue figure was adjusted to match the percent of sales reported by the company to the World Benchmarking Alliance in 2020 as agrifood related, with the same percentage applied to 2022 revenue.
2. For publicly held companies, or private companies with publicly accessible sector breakdowns of product sales, an agrifood-related analysis was determined by company-reported segment sales in relevant food and/or agriculture segments. In determining the inclusion of segmented sales, only data from those segments that were fully or primarily agrifood sales data were included. In cases where some segmented sales had minimal or partial agrifood revenue, those segments were either analyzed to determine the specific agrifood revenue, or the revenue from those segments was not included in the agrifood revenue analysis.
   a. If company sales were segmented by geography, rather than product type, an in-depth review of company reports and relevant industry analysis was conducted to determine segmented sales by product type. This step included deeper research into public statements, analysts' reports, investment databases, and other sources.
   b. If a company's agrifood-related revenue was not possible to establish independently (for example, through company reports, industry analyses, etc.), that company's agrifood revenue was flagged for further analysis and review
3. For grocery retail data (more than one-third of the final Group of 100 list), any companies listed on the Flywheel Data report of 2022 top world groceries used the Flywheel figure for agrifood revenue.[277] To determine the agrifood-related revenue for grocery retailers that where not listed in the Flywheel report, 2020 data from Edge by Essential was used to determine the percent of total company revenue at that time that came from agrifood-related sales. Those 2020 percentages were applied to 2022 revenues to determine 2022 agrifood-related sales on a company-by-company basis. Note that this data does not include any revenue from tobacco, textile, or timber products.
4. Any companies with remaining gaps or concerns regarding agrifood-related revenue were checked against company-reported data supplied to the World Benchmarking Alliance in 2020 that included a percentage of sales as agrifood-related sales.[278] Those 2020 percentages were applied to 2022 revenues to determine 2022 agrifood-related sales on a company-by-company basis. All cases where these agrifood-related revenue percentages were applied are marked in the underlying database as being estimates.

5. The final list included more than 140 companies with agrifood-related revenues greater than $15 billion. From this full dataset, the Group of 100 list was determined by identifying the largest 100 companies by agrifood-related revenue.

Subsidiary Revenues

In all cases, parent or operating companies were prioritized for database inclusion. Subsidiary companies were *not* included unless they offered the highest level of available agrifood-related data or if the parent company is a separate type of institution, such as a financial holding company. In any cases where the company listed was not the parent company, data was also collected on the parent company (including company type, headquarters country, 2022 revenue, and notes), and this information is listed in the underlying database.

In the development of the Group of 100 list, we have assumed standard accounting practices for parent-subsidiary relationships, including that **subsidiary company revenues are included in parent company financial reporting**. A detailed review of several companies and high-revenue subsidiaries found that this is not always the case. For example, only 70% of revenues reported from subsidiary Wal-Mart de Mexico are included in the reporting of Walmart Inc., the parent company. Similarly, only 90% of the revenue of subsidiary Yihai Kerry Arawana is included in the parent company Wilmar International Limited. In all cases where we obtained additional subsidiary data on revenue flows, that information is included in detail in the Group of 100 database. While the calculation of additional subsidiary revenue not included in parent company revenue streams would provide the most accurate representation of the total sales of each Group of 100 company (for example, the added 30% of Wal-Mart de Mexico's revenue to the total revenue of Walmart Inc., or the added 10% of Yihai Kerry Arawana to the revenue of Wilmar International Limited), we chose not to include those additional revenue streams for several reasons. First, for any private companies, one-third of the Group of 100, we would not be able to access subsidiary information, so the calculations would be uneven. Second, subsidiary companies with smaller revenue streams may not have surfaced in the database scan and would have therefore been excluded, further skewing the data. Finally, the approach of assuming that subsidiary revenues are included in parent reporting falls in line with our data collection approach throughout the process – i.e., in case of data discrepancy, choose the smaller number – thus having the Group of 100 revenue streams representing the lower end of data estimates in all cases.

Data Analysis

Data analysis for the report included consideration of the challenges to data collection as well as analysis of the GH list by factors including geography, sector, and company founding/incorporation date.

Endnotes

1 For citations, see the full report.

2 Associated Press. (January 2, 2023). "Global food prices hit record highs in 2022 amid drought and war." https://www.npr.org/2023/01/07/1147660525/global-food-prices-2022-record-high

3 World Health Organization. (July 24, 2024). Hunger numbers stubbornly high for three consecutive years as global crises deepen: UN report. https://www.who.int/news/item/24-07-2024-hunger-numbers-stubbornly-high-for-three-consecutive-years-as-global-crises-deepen—un-report. Statistics on hunger are complex and strongly contested. For critique, among many sources, see Frances Moore Lappé, Jennifer Clapp, Molly Anderson, Robin Broad, Ellen Messer, Thomas Pogge, and Timothy Wise, (July 9, 2013). How We Count Hunger Matters. Ethics & International Affairs. 27(3):252-259.doi:10.1017/50892679413000191. https://open.substack.com/pub/agrowingculture/p/the-politics-of-measuring-hunger?utm_campaign=post-expanded-share&utm_medium=webA Growing Culture. The Politics of Measuring Hunger

4 See the Group of 100 list, on which the top eight companies by agrifood sales are Walmart, Cargill, Schwarz, Kroger, Costco, Cofco, Nestlé, and Archer Daniels Midland. As this report will detail, the allegation is not that these companies are the most harmful actors in the food system, merely that they are the largest. By comparison, the UN FAO cites the total value of global food exports in 2022 at $1.639 trillion. (https://openknowledge.fao.org/server/api/core/bitstreams/7ca7c051-6ad2-4595-820b-c373fdb365f1/content/state-of-agricultural-commodity-markets/2024/pattern-evolution-food-trade.html)

5 The 70/30 statistic was first asserted by ETC Group in the report, Who Will Feed Us? Questions about the Food and Climate Crisis. 2009. Available online: https://www.etcgroup.org/content/who-will-feed-us. It has been widely used and robustly debated in food policy literature. ETC Group provided further defense in the report, Small Scale Farmers and Peasants Still Feed the World. 2022. Available online: https://www.etcgroup.org/content/backgrounder-small-scale-farmers-and- peasants-still- feed-world. The statistics were most recently further examined by Knezevic, Irena & Blay-Palmer, Alison & Clause, Courtney. Recalibrating Data on Farm Productivity: Why We Need Small Farms for Food Security. 2023. Sustainability. 15(19), 14479, https://doi.org/10.3390/su151914479. Knezevic and Palmer came up with a different land figure. They reinterpreted existing food production data to calculate that family farmers and smallholders account for 81% of food supply in kilocalories on 72% of the agricultural land, while larger farms account for 13% of food supply yet use 28% of the land. They also calculated that farms over 1,000 hectares occupy 12% of the land used for food production and yet provide only 3% of the food supply in kilocalories. But they acknowledge that their calculations don't account for nonfarm food production such as fishing, hunting and gathering, and urban production, as well as subsistence production, all of which ETC Group accounted in their original estimate.

6 United Nations Conference on Trade and Development. On the Brink: Trade, finance and the reshaping of the global economy: Trade and development report 2025. https://unctad.org/publication/trade-and-development-report-2025. See in particular Chapter 3, The Financial Architecture of Global Food Trading: New Patterns and Emerging Risks.

7 These concepts will be developed in a forthcoming report.

8 Michael Fakhri. (July 21, 2025). Right to food. United Nations General Assembly. https://docs.un.org/en/A/80/213#:~:text=Corporate%20power%20in%20food%20systems,rights%20violations%20in%20food%20systems

9 FAO, IFAD, UNICEF, WFP, and WHO. (2025). The State of Food Security and Nutrition in the World 2025 – Addressing high food price inflation for food security and nutrition. Food and Agriculture Organization of the United Nations. https://doi.org/10.4060/cd6008en

10 Johan Rockström et al. (October 2, 2025). The EAT–Lancet Commission on healthy, sustainable, and just food systems. The Lancet. https://food.climate.columbia.edu/sites/food.climate.columbia.edu/files/content/EAT%20Lancet_Oct%202025.pdf

11 ETC Group. (October 16, 2017). Who Will Feed Us? The Industrial Food Chain vs. the Peasant Food Web. https://www.etcgroup.org/content/who-will-feed-us-industrial-food-chain-vs-peasant-food-web

12 ETC Group. (October 31, 2009). Who Will Feed Us? Questions about the Food and Climate Crisis. 2009. https://www.etcgroup.org/content/who-will-feed-us

13 Teresa Anderson. (December 2019). Principles for a Just Transition in Agriculture. ActionAid. https://actionaid.org/sites/default/files/publications/Principles%20for%20a%20just%20transition%20in%20agriculture_0.pdf

14 https://movementgeneration.org/justtransition/

15 World Health Organization. (July 24, 2024). Hunger numbers stubbornly high for three consecutive years as global crises deepen: UN report. https://www.who.int/news/item/24-07-2024-hunger-numbers-stubbornly-high-for-three-consecutive-years-as-global-crises-deepen—un-report. Statistics on hunger are complex and strongly contested. For critique, among many sources, see Frances Lappé et al. (2011). How We Count Hunger Matters. Ethics & International Affairs. 27. 10.1017/S0892679413000191. https://open.substack.com/pub/agrowingculture/p/the-politics-of-measuring-hunger?utm_campaign=post-expanded-share&utm_medium=webA Growing Culture. The Politics of Measuring Hunger.

16 Frances Moore Lappé et al. (2011). How We Count Hunger Matters. Ethics & International Affairs. 27. 10.1017/S0892679413000191. https://open.substack.com/pub/agrowingculture/p/the-politics-of-measuring-hunger?utm_campaign=post-expanded-share&utm_medium=webA Growing Culture. The Politics of Measuring Hunger

17 Lappé, Frances Moore, Jennifer Clapp, Molly Anderson, Robin Broad, and Ellen Messer. 2013. "How We Count Hunger Matters." Ethics & International Affairs 27(3): 251–259.

18 J.G. Conijn, P.S. Bindraban, J.J. Schröder, and R.E.E. Jongschaap, Can our global food system meet food demand within planetary boundaries?,Agriculture, Ecosystems & Environment, Volume 251, 2018, Pages 244-256, https://doi.org/10.1016/j.agee.2017.06.001 and B. M. Campbell et al. (2017). Agriculture production as a major driver of the Earth system exceeding planetary boundaries. Ecology and Society 22(4):8. https://doi.org/10.5751/ES-09595-220408

19 Johan Rockström et al. (May 31, 2023). Safe and just Earth system boundaries. Nature. https://doi.org/10.1038/s41586-023-06083-8

20 FAO, IFAD, UNICEF, WFP, and WHO. (2025). The State of Food Security and Nutrition in the

World 2025 – Addressing high food price inflation for food security and nutrition. Food and Agriculture Organization of the United Nations. https://doi.org/10.4060/cd6008en

21 FAO. (2024). The State of Food Security and Nutrition in the World 2024. https://openknowledge.fao.org/server/api/core/bitstreams/39dbc6d1-58eb-4aac-bd8a-47a8a2c07c67/content/state-food-security-and-nutrition-2024/ending-hunger-food-security.html

22 OXFAM. (September 20, 2022). Humanitarian organizations estimate one person dying of hunger every four seconds. https://www.oxfam.org/en/press-releases/humanitarian-organizations-estimate-one-person-dying-hunger-every-four-seconds

23 The Lancet. (May 11, 2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2019. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30041-8/fulltext; Mikaela Conley. (May 7, 2025). Ultra-processed foods tied to cancer, diabetes, dementia, depression, early death, and more. U.S. Right to Know. https://usrtk.org/ultra-processed-foods/cancer-diabetes-dementia-depression-early-death/

24 Jacob Gerkin, Gear Thomas Vincent, Demie Zapata, Ileana G. Barron, and Isain Zapata. (July 22, 2024). Comprehensive assessment of pesticide use patterns and increased cancer risk. Frontiers in Cancer Control and Society. https://www.frontiersin.org/journals/cancer-control-and-society/articles/10.3389/fcacs.2024.1368086/full

25 Chander Shekhar, Reetu Khosya, Kushal Thakur, Danish Mahajan, Rakesh Kumar, Sunil Kumar, and Amit Kumar Sharma. (November 30, 2024). A systematic review of pesticide exposure, associated risks, and long-term human health impacts. National Library of Medicine. https://pmc.ncbi.nlm.nih.gov/articles/PMC11664077/

26 Sílvia Moreira, Sara C Pereira, Vicente Seco-Rovira, Pedro F Oliveira, Marco G Alves, and Maria de Lourdes Pereira. (November 25, 2021). Pesticides and Male Fertility: A Dangerous Crosswalk. National Library of Medicine. https://pmc.ncbi.nlm.nih.gov/articles/PMC8707831/ and Harvard T.H. Chan School of Public Health. (October 30, 2017). Pesticides in produce linked with reduced fertility in women. https://hsph.harvard.edu/news/pesticides-produce-fertility-women/

27 Chander Shekhar et al. Op cit.

28 C. Freire and S. Koifman. (2013). Pesticides, depression and suicide: A systematic review of the epidemiological evidence. International Journal of Hygiene and Environmental Health, 216(4), pp. 445–460. https://ciatox.saude.sc.gov.br/index.php/component/content/article/agrotoxicos-e-sua-associacao-com-depressao-e-suicidio.html?catid=37:neurotoxicidade&Itemid=101

29 Florence Pendrill et al. (September 9, 2022). Disentangling the numbers behind agriculture-driven tropical deforestation. Science. https://www.science.org/doi/10.1126/science.abm9267

30 UN Environment Program. (February 3, 2021). Our global food system is the primary driver of biodiversity loss. https://www.unep.org/news-and-stories/press-release/our-global-food-system-primary-driver-biodiversity-loss

31 Francisco Sánchez-Bayo and Kris A.G. Wyckhuys. (April 2019). Worldwide decline of the entomofauna: A review of its drivers. Biological Conservation, 232, 8-27. https://www.sciencedirect.com/science/article/abs/pii/S0006320718313636

32 Friends of the Earth. (2018). The Dangers of Industrial Ocean Fish Farming. https://foe.org/wp-content/uploads/2018/05/AquacultureReport_051718.pdf

33 Mary K. Hendrickson, Philip H. Howard, Emily M. Miller, and Douglas H. Constance. (November 19, 2020). The Food System: Concentration and its Impacts. Family Farm Action Alliance. https://farmaction.us/wp-content/uploads/2021/05/Hendrickson-et-al.-2020.-Concentration-and-Its-Impacts_FINAL_Addended.pdf

34 DeShawn L. Blanding. (October 24, 2024). The Historical Exploitation of Agricultural and Food Workers Needs to Stop. Union of Concerned Scientists. https://blog.ucs.org/deshawn-blanding/the-historical-exploitation-of-agricultural-and-food-workers-needs-to-stop/

35 Mariana Loezar-Hernández, Agustin González-Rodríguez, Heidy Natalia Urrego-Parra, María del Mar Jiménez-Lasserrotte, María del Mar Pastor-Bravo, and Erica Briones-Vozmediano. (February 11, 2025). The vulnerability of migrant women working in agriculture in Spain: A qualitative study from the perspective of social and health professionals. Women's Studies International Forum. https://www.sciencedirect.com/science/article/pii/S0277539525000147

36 U.S. Department of Labor Bureau of International Labor Affairs. (n.d.). Ending Child Labor in Cocoa Production. https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods/supply-chains/cocoa

37 FAO. (n.d.) Pesticides use and trade: 1990-2021. https://openknowledge.fao.org/server/api/core/bitstreams/222f250c-3764-401b-98c7-f52a699dd65c/content

38 Tari Gunstone, Tara Cornelisse, Kendra Klein, Aditi Dubey, and Nathan Donley. (May 3, 2021). Pesticides and Soil Invertebrates: A Hazard Assessment. Frontiers in Environmental Science. https://doi.org/10.3389/fenvs.2021.643847; Michael DiBartolomeis, Susan Kegley, Pierre Mineau, Rosemarie Radford, and Kendra Klein. (August 6, 2019). An assessment of acute insecticide toxicity loading (AITL) of chemical pesticides used on agricultural land in the United States. PLoS ONE 14(8): e0220029. https://doi.org/10.1371/journal.pone.0220029; Edoardo Puglisi. (November 26, 2012). Response of microbial organisms (aquatic and terrestrial) to pesticides. EFSA Supporting Publications. https://efsa.onlinelibrary.wiley.com/doi/10.2903/sp.efsa.2012.EN-359

39 Stefano Menegat, Alicia Ledo, and Reyes Tirado. (August 25, 2022). Greenhouse gas emissions from global production and use of nitrogen synthetic fertilisers in agriculture. Scientific Reports. (See Table 1.) https://www.nature.com/articles/s41598-022-18773-w

40 BijaySingh and Eric Craswell. (March 31, 2021). Fertilizers and nitrate pollution of surface and ground water: an increasingly pervasive global problem. SN Applied Sciences. https://link.springer.com/article/10.1007/s42452-021-04521-8

41 Sachchidanand Tripathi, Pratap Srivastava, Rajkumari S. Devi, and Rahul Bhadouria. (2020). Influence of synthetic fertilizers and pesticides on soil health and soil microbiology. Agrochemicals Detection, Treatment and Remediation. https://www.sciencedirect.com/science/

chapter/edited-volume/abs/pii/B9780081030172000027

42 H. N. Pahalvi, L. Rafiya, S. Rashid, B. Nisar, and A. N. Kamili. (April 1, 2021). Chemical Fertilizers and Their Impact on Soil Health. Microbiota and Biofertilizers, Vol 2: Ecofriendly tools for reclamation of degraded soil environs, pp. 1-20. https://link.springer.com/chapter/10.1007/978-3-030-61010-4_1

43 M. H. Ward, R. R. Jones, J. D. Brender. T. M. De Kok, P. J. Weyer, B. T. Nolan, C. M. Villanueva, and S. G. Van Breda. (2018). Drinking Water Nitrate and Human Health: An Updated Review. International Journal of Environmental Research and Public Health, 15(7), 1557. https://doi.org/10.3390/ijerph15071557

44 Stefano Megat, Alicia Ledo, and Reyes Tirado. (August 2022). Greenhouse gas emissions from global production and use of nitrogen synthetic fertilisers in agriculture. Scientific Reports. https://www.researchgate.net/publication/362911294_Greenhouse_gas_emissions_from_global_production_and_use_of_nitrogen_synthetic_fertilisers_in_agriculture; The Institute for Agriculture and Trade Policy (IATP) and the Changing Markets Foundation. (November 15, 2022). Emissions Impossible: The Methane Edition. https://www.iatp.org/emissions-impossible-methane-edition

45 Stefano Megat, Alicia Ledo, and Reyes Tirado. (August 2022). Greenhouse gas emissions from global production and use of nitrogen synthetic fertilisers in agriculture. Scientific Reports. https://www.researchgate.net/publication/362911294_Greenhouse_gas_emissions_from_global_production_and_use_of_nitrogen_synthetic_fertilisers_in_agriculture; The Institute for Agriculture and Trade Policy (IATP) and the Changing Markets Foundation. (November 15, 2022). Emissions Impossible: The Methane Edition. https://www.iatp.org/emissions-impossible-methane-edition

46 Steven Grattan. (April 9, 2026). Iran war puts focus on petrochemicals used in numerous products and a driver of climate change. Associated Press. https://apnews.com/article/climate-petrochemicals-oil-iran-war-fossil-fuels-48ed9e6cc05c15e24472cdb1714274f7

47 D. F. Levia, I. F. Creed, D. M. Hannah, et al. (September 21, 2020). Homogenization of the terrestrial water cycle. Nature Geoscience. https://www.nature.com/articles/s41561-020-0641-y

48 United Nations Convention to Combat Desertification. (June 17, 1994). https://www.unccd.int/sites/default/files/2022-02/UNCCD_Convention_ENG_0_0.pdf

49 United Nations. (June 16, 2019). 24 billion tons of fertile land lost every year, warns UN chief on World Day to Combat Desertification. https://news.un.org/en/story/2019/06/1040561

50 Matthew N. Hayek. (November 2, 2022). The infectious disease trap of animal agriculture. Science Advances. https://www.science.org/doi/10.1126/sciadv.add6681

51 See https://www.farmlandgrab.org/ and Pietje Vervest, Carasten Pedersen, Mads Barbesgaard, Timothé Feodoroff, and Ricarda Reuter. (September 2, 2014). The Global Ocean Grab: A Primer. Transnational Institute. https://www.tni.org/en/publication/the-global-ocean-grab-a-primer.

52 For extensive examples, see https://www.farmlandgrab.org/.

53 Global Witness. (September 10, 2024). More than 2,100 land and environmental defenders killed globally between 2012 and 2023. (Press release). https://globalwitness.org/en/press-releases/more-than-2100-land-and-environmental-defenders-killed-globally-between-2012-and-2023/

54 Monique Mikhail, Kelly McNamara, Chelsea Matthews, and Ward Warmerdam. (April 2024). Bull in the Climate Shop: Industrial livestock financing sabotages major U.S. banks' climate commitments. Friends of the Earth. https://foe.org/wp-content/uploads/2024/04/Bull-in-the-Climate-Shop_FR_FINAL.pdf

55 Pedro Cardoso et al. (February 2020). Scientists' warnings to humanity on insect extinctions. Biological Conservation. https://www.sciencedirect.com/science/article/pii/S0006320719317823

56 FAO. (2026). Livestock and enteric methane. https://www.fao.org/in-action/enteric-methane/en#:~:text=Every%20year%20almost%20600%20million,improving%20food%20security%20and%20livelihoods

57 Greenpeace, Foodrise, Friends of the Earth, Institute for Agriculture and Trade Policy. (October 16, 2025). Roasting the Planet: Big Meat and Dairy's Big Emissions. https://foe.org/wp-content/uploads/2025/10/Roasting-The-Planet-ExecSummary-FINAL-16_10_25.pdf

58 The Rockefeller Foundation. (July 14, 2021). The True Cost of Food: Measuring What Matters to Transform the U.S. Food System. https://www.rockefellerfoundation.org/reports/true-cost-of-food-measuring-what-matters-to-transform-the-u-s-food-system/

59 Chris Edwards. (August 31, 2023). Cutting Federal Farm Subsidies. CATO Institute. https://www.cato.org/briefing-paper/cutting-federal-farm-subsidies#reasons-repeal-farm-subsidies. See also Environmental Working Group Farm Subsidy Database, https://farm.ewg.org/.

60 Cheryl D. Fryar, Margaret D. Carroll, and Joseph Afful. (January 29, 2021). Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018. National Center for Health Statistics. https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm

61 CDC. (July 9, 2024). Managing Chronic Health Conditions. https://www.cdc.gov/school-health-conditions/chronic-conditions/index.html

62 Afra Paleel. (August 6, 2024). Pesticide cancer risks could rival those of smoking. Oncology Central. https://www.oncology-central.com/pesticide-cancer-risks-could-rival-those-of-smoking/

63 Economic Research Service/USDA. (March 30, 2026). Food Security in the U.S. – Key Statistics and Graphics. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics

64 Carey Gillam. (July 3, 2025). 'It doesn't have to be this way' – Scientists confirm Iowa farm pollution is creating dire health risks. Rooted in Truth. https://investigatemidwest.org/2025/07/03/it-doesnt-have-to-be-this-way-scientists-confirm-iowa-farm-pollution-is-creating-dire-health-risks/

65 National Science Foundation. (January 10. 2023). Soil in Midwestern U.S. eroding 10 to 1,000 times faster than it forms. https://www.nsf.gov/news/soil-midwestern-us-eroding-10-1000-

times-faster-it

66 Phoebe Weston. (July 8, 2025). 'Could become a death spiral': scientists discover what's driving record die-offs of US honeybees. The Guardian. https://www.theguardian.com/environment/2025/jul/08/record-us-bee-colony-dieoffs-climate-stress-pesticides-silent-spring-aoe

67 Real Food Media. (2026). Food Workers. https://realfoodmedia.org/issues/food-workers/

68 Food Chain Workers Alliance. (February 2025). Food Chain Workers in 2025: Labor & Exploitation in the Food System. https://foodchainworkers.org/wp-content/uploads/2025/02/Food-Worker-Data-Update-2025-FCWA-3.pdf

69 Sarah Zimmerman. (October 24, 2024). Big Ag is spending big on lobbying and the 2024 election. Agriculture Dive. https://www.agriculturedive.com/news/agriculture-lobbying-2024-election-campaign-spending-farm-bill/730813/

70 United Nations. (June 22, 2023). Global Financial Architecture Has Failed Mission to Provide Developing Countries with Safety Net, Secretary-General Tells Summit, Calling for Urgent Reforms. (Press release). https://press.un.org/en/2023/sgsm21855.doc.htm

71 International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD). 2009. Agriculture at a Crossroads: Global Report. Edited by Beverly D. McIntyre, Hans R. Herren, Judi Wakhungu, and Robert T. Watson. Washington, DC: Island Press.

72 Victoria Masterson. (November 17, 2023). Our food and agriculture is responsible for trillions of dollars of hidden costs, says the UN. Here's why – and what can be done. https://www.weforum.org/stories/2023/11/fao-hidden-food-costs-agriculture/#:~:text=What%20is%20the%20true%20cost,national%20level%20across%20154%20countries

73 PAAN. (n.d.) The Pesticide Treadmill. https://www.panna.org/resources/the-pesticide-treadmill/

74 Sheila Babbitt. (April 11, 2025). Overuse of Bt Corn Leads to Pest Resistance in U.S. Corn. Michigan State University College of Agriculture & Natural Resources. https://www.canr.msu.edu/news/overuse-of-bt-corn-leads-to-pest-resistance-in-u-s-corn; Rod Nickel and Tom Polansek. (January 16, 2024). Crop-killing weeds advance across US farmland as chemicals lose effectiveness. Reuters. https://www.reuters.com/markets/commodities/crop-killing-weeds-advance-across-us-farmland-chemicals-lose-effectiveness-2024-01-16/

75 Jennifer Clapp and Ryan Isakson. (January 2018.) Speculative Harvests: Financialization, Food and Agriculture. https://practicalactionpublishing.com/book/2046/speculative-harvests

76 Jennifer Clapp and Eric Helleiner. (November 5, 2010). Troubled futures? The global food crisis and the politics of agricultural derivatives regulation. Review of International Political Economy, 19(2), 181–207. https://doi.org/10.1080/09692290.2010.514528

77 Michael Fakhri. (July 18, 2023). Interim report of the Special Rapporteur on the right to food. United Nations. https://docs.un.org/en/A/78/202

78 Margiana Petersen-Rockney et al. (March 14, 2021) Narrow and Brittle or Broad and Nimble? Comparing Adaptive Capacity in Simplifying and Diversifying Farming Systems. Frontiers in

Sustainable Food Systems. doi: 10.3389/fsufs.2021.564900

79 Global agricultural commodity production is estimated at around 4 billion metric tonnes of food. China, the USA, Brazil, Russia, and India account for 2.8 billion metric tonnes of commodity food production. https://www.vanguardngr.com/2024/09/top-10-agricultural-producing-countries-in-the-world/

80 Steffi Hamann. (May 24, 2022). The impact of Indonesia's ban on palm oil exports reverberated across the globe. The Conversation. https://theconversation.com/the-impact-of-indonesias-ban-on-palm-oil-exports-reverberated-across-the-globe-182501

81 Kai Kornhuber, Corey Lesk, Carl F. Schleussner, Jonas Jägermeyr, Peter Pfleiderer, and Radley M. Horton. (July 4, 2023). Risks of synchronized low yields are underestimated in climate and crop model projections. Nature Communications. https://www.nature.com/articles/s41467-023-38906-7

82 Noah Gordon and Lucy Corthell. (March 12, 2026). The Other Global Crisis Stemming From the Strait of Hormuz's Blockage. Carnegie Endowment for International Peace. https://carnegieendowment.org/emissary/2026/03/fertilizer-iran-hormuz-food-crisis

83 Richard S. Cottrell et al. (January 28, 2019). Food production shocks across land and sea. Nature Sustainability. https://www.nature.com/articles/s41893-018-0210-1

84 Mary K. Hendrickson, Philip H. Howard, Emily M. Miller, and Douglas H. Constance. (November 19, 2020). The Food System: Concentration and Its Impacts. Farm Action. https://farmaction.us/wp-content/uploads/2021/05/Hendrickson-et-al.-2020.-Concentration-and-Its-Impacts_FINAL_Addended.pdf

85 Michigan Farm News. (May 16, 2025). How much did last year's solar storm cost farmers? The answer may surprise you. https://www.michiganfarmnews.com/how-much-did-last-year-s-solar-storm-cost-farmers-

86 Samuel Greengard. (August 5, 2022). Climate Change Threatens Cloud Stability. Information Week. https://www.informationweek.com/cyber-resilience/climate-change-threatens-cloud-stability

87 Nasim Nicholas Taleb. (January 28, 2014). Antifragile: Things That Gain From Disorder. https://www.penguinrandomhouse.com/books/176227/antifragile-by-nassim-nicholas-taleb/

88 Nasim Nicholas Taleb et al. (October 17, 2014). The Precautionary Principle (with Application to the Genetic Modification of Organisms). https://arxiv.org/pdf/1410.5787; Mark Spitznagel and Nassim Nicholas Taleb. (July 13, 2015). Another 'Too Big to Fail' System in G.M.O.s..The New York Times. https://www.nytimes.com/2015/07/14/business/dealbook/another-too-big-to-fail-system-in-gmos.html

89 Organization for Competitive Markets. (August 24, 2020). Captured: How Agribusiness Controls Regulatory Agencies and Harms Producers and Consumers. https://competitivemarkets.com/wp-content/uploads/2020/08/Regulatory-Capture-Paper_Final.pdf

90 OECD. (October 30, 2025). Agricultural Policy Monitoring and Evaluation 2025. https://www.oecd.org/en/publications/agricultural-policy-monitoring-and-evaluation-2025_a80ac398-en/full-report/overview-of-agricultural-policies-and-support_68470b91.html#:~:text=Gov-

ernments%20need%20coherent%20agricultural%20and,of%20each%20type%20of%20

91 Chris Edwards. (August 31, 2023). Cutting Federal Farm Subsidies. CATO Institute. https://www.cato.org/briefing-paper/cutting-federal-farm-subsidies#reasons-repeal-farm-subsidies. See also Environmental Working Group farm subsidy database: https://farm.ewg.org/.

92 European Coordination Via Campesina. (n.d.). CAP – the Common Agricultural Policy. https://www.eurovia.org/our-policy-positions/pos-3/

93 UN Conference on Trade and Development. (March 17, 2025). Debt crisis: Developing countries' external debt hits record $11.4 trillion. https://unctad.org/news/debt-crisis-developing-countries-external-debt-hits-record-114-trillion

94 Molly Anderson, Jennifer Clapp, Shalmali Guttal, Anna Paskal, and Sofia Monsalve Suárez. (February 2023). Who's Tipping the Scales? IPES-Food. https://www.ipes-food.org/_img/upload/files/tippingthescales.pdf

95 For in-depth reading on this topic, see Anthony Loewenstein, Disaster Capitalism: Making a Killing Out of Catastrophe. (2015). Verso. and Naomi Klein, The Shock Doctrine: The Rise of Disaster Capitalism. (2008). Holt Paperbacks

96 Elizabeth Atieno, Sam Quashie-Idun, and Lyn Cherotich. (October 22, 2025). Banned in Europe, booming in Africa: the dirty secret of pesticide exports. Greenpeace. https://www.greenpeace.org/africa/en/blog/59388/banned-in-europe-booming-in-africa-the-dirty-secret-of-pesticide-exports/

97 Patrick Thomas. (April 14, 2025). Farmers' Favorite Weedkiller Nears Its End, Bayer Warns. The Wall Street Journal. https://www.wsj.com/business/farmers-favorite-weedkiller-nears-its-end-bayer-warns-324da1e6

98 Hiroko Tibuchi. (March 8, 2026). A Trump Order Protected a Weedkiller. And Also a Weapon of War. The New York Times. https://www.nytimes.com/2026/03/08/climate/bayer-white-phosphate-glyphosate-roundup-trump-executive-order-munition.html

99 Carey Gillam. (April 15, 2025). Weedkiller maker moves to settle suit over Parkinson's disease claims. The Guardian. https://www.theguardian.com/environment/2025/apr/15/syngenta-weedkiller-parkinsons

100 Mike Scarcella. (January 29, 2025). Syngenta, Corteva must face part of farmers' antitrust lawsuit over pesticide prices. Reuters. https://www.reuters.com/legal/litigation/syngenta-corteva-must-face-part-farmers-antitrust-lawsuit-over-pesticide-prices-2025-01-29/

101 Dave Fusaro. (January 21, 2025). 11 Food Companies Targeted in Ultraprocessed Lawsuit. Food Processing. https://www.foodprocessing.com/business-of-food-beverage/legal-issues/article/55262421/11-food-companies-targeted-in-ultraprocessed-lawsuit

102 CCSF-UPF-Complaint-2025.12.02. https://media.api.sf.gov/documents/CCSF-UPF-Complaint-2025.12.02.pdf

103 Mike Scarcella. (April 23, 2025). Tyson, other pork producers to pay $64 million in new price-fixing settlements. Reuters. https://www.reuters.com/legal/litigation/tyson-other-pork-producers-pay-64-million-new-price-fixing-settlements-2025-04-23/

104 Animal Legal Defense Fund. (September 18, 2024). Tyson Foods Sued Over Deceptive 'Net-Zero' and 'Climate-Smart' Beef Claims. https://aldf.org/article/tyson-foods-sued-over-deceptive-net-zero-and-climate-smart-beef-claims/

105 Diana Novak Jones. ((November 15, 2024). Boar's Head consumers to settle lawsuits following listeria recalls. Reuters. https://www.reuters.com/legal/government/boars-head-consumers-settle-lawsuits-following-listeria-recalls-2024-11-15/

106 This title is taken, respectfully, from a book of the same name: Haiven, Max. Palm Oil: The Grease of Empire. 2022. Pluto Press. Citing original fieldwork as well as extensive literature on the subject, Haiven's book provides an incredibly insightful window into the political economy of the palm oil industry. "It is likely not an exaggeration to say that the literal and figurative wheels of empire, from locomotives to steam engines, were greased with West African palm oil," writes Haiven. (32)

107 Peter Pollak. (May 10, 1976). Palm Oil: Prospects and Issues. World Bank. https://thedocs.worldbank.org/en/doc/088011224509465922-0560011976/original/WorldBankGroupArchivesfolder30124865.pdf; Alice Baudoin, Pierre-Marie Bosc, Cécile Bessou, and Patrice Levang. (January 1, 2017). A Short History of Palm Oil in Indonesia: A 'Success Story'. JSTOR. https://www.jstor.org/stable/resrep16293.4?seq=1

108 Jonathan Robins. Oil Palm: A Global History. University of North Carolina Press, Chapel Hill, NC, 2021, pp. 268-9.

109 Jaboury Ghazoul. (February 5, 2013). Deforestation and Land Clearing. Encyclopedia of Biodiversity. https://doi.org/10.1016/B978-0-12-384719-5.00281-1

110 Diana Parker et al. (July 1, 2024). Land in limbo: Nearly one third of Indonesia's cleared old-growth forests left idle. PNAS. https://doi.org/10.1073/pnas.2318029121

111 Sanjay Basu, Kim S. Babiarz, Shah Ebrahim, Sukumar Vellakkal, David Stuckler, and Jeremy D. Goldhaber-Fiebert. (October 22, 2013). Palm oil taxes and cardiovascular disease mortality in India: economic-epidemiologic model. BMJ. https://pubmed.ncbi.nlm.nih.gov/24149818/

112 Among many sources, see Jason Moore and Raj Patel, A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet. UC Press, 2018.

113 Robins, op. cit., 339-40.

114 Oliver Pye. (2019). Commodifying sustainability: Development, nature and politics in the palm oil industry. IDEAS. https://ideas.repec.org/a/eee/wdevel/v121y2019icp218-228.html

115 Klas Rönnbäck. (January 31, 2023). Sugar Plantation Slavery. Oxford Academic. https://doi.org/10.1093/acrefore/9780190277734.013.908

116 Jocelyn Zuckerman. Planet Palm: How Palm Oil Ended Up in Everything – and Endangered the World. Hurst. London, 2021, Chapter 3.

117 See Food, Land & Money, Part 2, pp. 24-77.

118 Forests & Finance. (n.d.) Finance's Role in Deforestation. https://forestsandfinance.org/

119 https://ourworldindata.org/grapher/soybean-production-and-use

120 World Economic Forum. (February 27, 2024). The Cerrado: Production and Protection. https://

www.weforum.org/publications/the-cerrado-production-and-protection/

121 Molly Herring. (July 31, 2024). Cerrado's current drought impossible without human-caused climate change: Study. Mongabay. https://news.mongabay. com/2024/07/cerrados-current-drought-impossible-without-human-caused-climate-change-study/

122 NutriNews Asia. (May 26 2026) Brazil's soy exports to China are both its strength and vulnerability. https://nutrinews.com/en/brazil-sees-huge-export-volume-of-soybean-to-china-as-strength-vulnerability/ and Osvaldo Pereira, Paula Bernasconi. (January 28, 2025) Trase: Brazilian soy exports and deforestation. https://www.sei.org/features/brazilian-soy-exports-and-deforestation/

123 Ana Mano, Manuela Andreoni. (December 29, 2025) Soy trading firms to abandon Amazon protection pact in Brazil. Reuters. https://www.reuters.com/sustainability/soy-trading-firms-abandon-amazon-protection-pact-brazil-2025-12-29/

124 Fábio Pitta and Maria Luisa Mendonca. (April 2022). Industrial Soy Expansion in Brazil: Financialization, Deforestation, and Dispossession in the Birthplace of Waters. Friends of the Earth and Rede Social de Justiça e Direitos Humanos. https://foe.org/wp-content/uploads/2022/04/IndustrialSoyExpansion.Brazil.FoE-final.pdf; Fábio Pitta, Teresa Paris, Maria Luisa Mendonça, and Gaurav Madan. (September 2023). Land Grabbing and Ecocide: How Bunge, TIAA, and Harvard Fuel the Destruction of the Brazilian Cerrado. Friends of the Earth US, Rede Social de Justiça e Direitos Humanos, and ActionAid. https://foe.org/wp-content/uploads/2023/09/Land-Grabbing-and-Ecocide-Final-compressed.pdf; Rede Social de Justiça e Direitos Humanos, AidEnvironment, and Friends of the Earth US. (November 2025). Under the Radar: How Land Speculation Enables the Destruction of the Brazilian Cerrado. https://foe.org/wp-content/uploads/2025/11/Under_the_Radar11.25.compressed.pdf

125 Rafael Walendorff. (January 30, 2023). Grains drive strong land appreciation. Valor Econômico. https://valor.globo.com/agronegocios/noticia/2023/01/30/graos-puxam-forte-valorizacao-de-terras.ghtml

126 Fábio T. Pitta, Gerardo Cerdas, and Maria Luisa Mendonça. (2018). Transnational Corporations and Land Speculation in Brazil. Rede Social de Justiça e Direitos Humanos et al. https://foe.org/wp-content/uploads/2018/04/LandSpeculation_Brazil_42518.pdf

127 Diana Aguiar, Joice Bonfim, and Mauricio Correia. (November 9, 2021). Na fronteira da (i) legalidade: desmatamento e grilagem no matopiba. Association of Lawyers for Rural Workers (AATR). https://www.matopibagrilagem.org/_files/ugd/90fabf_904c1fc80ef64b04bd895c4959055366.pdf

128 Caio de Freitas Paes. (October 15, 2020). Harvard fund evades justice in land-grabbing case over Cerrado farm. Mongabay. https://news.mongabay.com/2020/10/harvard-fund-evades-justice-in-land-grabbing-case-over-cerrado-farm/

129 Fábio Pitta, Teresa Paris, Maria Luisa Mendonça, and Gaurav Madan. (September 2023). Land Grabbing and Ecocide: How Bunge, TIAA, and Harvard Fuel the Destruction of the Brazilian Cerrado. Friends of the Earth, Rede Social de Justica e Dereits Humanos, and ActionAid. https://foe.org/wp-content/uploads/2023/09/Land-Grabbing-and-Ecocide-Final-compressed.pdf

130 Cássio Cardoso Pereira et al. (January 9, 2026). The Cerrado crisis review: highlighting threats and providing future pathways to save Brazil's biodiversity hotspot. Nature Conservation 61: 29-70. https://doi.org/10.3897/natureconservation.61.168273

131 Emilly Layne Martins do Nascimento, Santiago José Elías Velazco, Fernando M. Ramos, Rafael G. Ramos, Aline C. Soterroni, and Geiziane Tessarolo. Climate change and feeble governance threaten the endangered endemic Cerrado flora in Brazil. Perspectives in Ecology and Conservation, Volume 23, Issue 4, 2025, Pages 290-299. https://www.sciencedirect.com/science/article/pii/S2530064425000458

132 Matheus Sehn Korting, Débora Assumpcao Lima, and Jose Sobreiro Filho. (2023). Brazilian Agricultural Frontier: Land Grabbing, Land Policy, and Conflicts. IDS Bulletin. 54. 73. 10.19088/1968-2023.106. https://opendocs.ids.ac.uk/articles/journal_contribution/Brazilian_Agricultural_Frontier_Land_Grabbing_Land_Policy_and_Conflicts/26434738?file=48184204

133 FIAN International. (June 3, 2025). Global Land Grab Highlights Growing Inequality. (Press release). https://www.fian.org/en/global-land-grab-highlights-growing-inequality-and-need-for-reform/

134 Shanna Hanbury. (October 6, 2025). Brazil soy deal that curbs Amazon deforestation to be suspended in 2026. Mongabay. https://news.mongabay.com/short-article/2025/10/brazil-soy-deal-that-curbs-amazon-deforestation-to-be-suspended-in-2026/

135 Ana Mano and Manuela Andreoni. (December 29, 2025). Exclusive: Soy trading firms to abandon Amazon protection pact in Brazil. https://www.reuters.com/sustainability/soy-trading-firms-abandon-amazon-protection-pact-brazil-2025-12-29/

136 Mataveli, G., Maure, L.A., Sanchez, A., Dutra, D.J., de Oliveira, G., Jones, M.W., Amaral, C., Artaxo, P. and Aragão, L.E.O.C. (2025), Forest Degradation Is Undermining Progress on Deforestation in the Amazon. Glob Change Biol, 31: e70209. https://doi.org/10.1111/gcb.70209

137 Geraldo Willson Fernandes, Gabriel Arvelino de Paula, Mariana G. Bender, Helena de Godoy Bergallo, Ronaldo Christofoletti, Guarino Rinaldi Colli, Bruce Dickinson, Jose Alexandre Diniz Filho, Stephannie Fernandes, Edmundo Gallo, Carlos Eduardo V. Grelle, Noemia Kazue Ishikawa, Leandro Juen, Inara R. Leal, Luiz Fernando Silva Magnago, Fernando Luis Mantelatto, Jean Paul Walter Metzger, Daniel Negreiros, Yumi Oki, Reyjane Patrícia de Oliveira, Laura Ortega-Corredor, Valério D. Pillar, Helder Lima de Queiroz, Letícia Ramos, Cláudia Quintino da Rocha, Domingos de Jesus Rodrigues, Fabio de Oliveira Roque, Clarissa Rosa, Rogério R. Silva, Mariana Pires de Campos Telles, Marilene H. Vainstein, Ricardo Augusto Gorne Viani. (2026) Shortcuts to degradation: environmental consequences of Brazil's general environmental licensing law. Perspectives in Ecology and Conservation, Volume 24, Issue 1, Pages 48-52, https://doi.org/10.1016/j.pecon.2025.10.004.

138 Amitav Ghosh, The Nutmeg's Curse: Parables for a Planet in Crisis, University of Chicago Press, 2021

139 For recent, powerful work on this topic, see, among many other sources, Reparations (p. 14).

Runnymede Trust. https://cdn.prod.website-files.com/61488f992b58e687f1108c7c/68cad40f6423b47213080142_RUNNYMEDE%20TRUST_REPARATIONS%20REPORT_FINAL-1-compressed.pdf and Táíwò, Olúfẹ ẹ mi. Reconsidering Reparations, Oxford University Press, 2022.

140 For a recent analysis, see Flora Sonkin. (April 7, 2020). Recipe for Disaster: The IMF and World Bank's Role in the Financialisation of Food and Agriculture. Bretton Woods Project. https://www.brettonwoodsproject.org/2020/04/recipe-for-disaster-the-imf-and-world-banks-role-in-the-financialisation-of-food-and-agriculture/

141 Stephen Walcot. (2025). The UK Racial Wealth Divide and the Need for Global Reparations. In Reparations (p. 14). Runnymede Trust. https://cdn.prod.website-files.com/61488f992b58e687f1108c7c/68cad40f6423b47213080142_RUNNYMEDE%20TRUST_REPARATIONS%20REPORT_FINAL-1-compressed.pdf

142 Adel Daoud, Bernhard Reinsberg, Alexander E. Kentikelenis, Thomas H. Stubbs, and Lawrence P. King. (2019). The International Monetary Fund's interventions in food and agriculture: An analysis of loans and conditions. Food Policy. https://www.sciencedirect.com/science/article/abs/pii/S030691921730893X

143 Bretton Woods Project. (April 2026). Hard-wiring hunger: Bretton Woods Institutions and the financialisation of food systems. https://www.brettonwoodsproject.org/wp-content/uploads/2026/04/bw_food_security_report_screen.pdf

144 L, Makombore and C. R. Anderson. (December 1, 2025). Agroecology and Public Development Banks: Transforming Development Finance for Equity and Resilience. UVM Institute for Agroecology. https://www.uvm.edu/d10-files/documents/2025-12/IFA-MDB-12-1-25-d.pdf

145 Alice Martin-Prével. (April 20, 2016). With a Little Help from Bill Gates, the World Bank Creates a New Aid Conditionality. The Oakland Institute. https://www.oaklandinstitute.org/our-take/little-help-bill-gates-world-bank-creates-new-aid-conditionality

146 Wolfgang Obenland. (August 2014). Corporate influence through the G8 New Alliance for Food Security and Nutrition in Africa. Misereor, Brot fuer die Welt, and Global Policy Forum. https://www.globalpolicy.org/sites/default/files/Corporate_Influence_through_the_G8NA.pdf

147 The Oakland Institute. (n.d.). Our Land Our Business. https://www.oaklandinstitute.org/series/our-land-our-business

148 Ibid. pp. 7-8

149 The Oakland Institute. (May 21, 2016). The Unholy Alliance: Five Western Donors Shape a Pro-Corporate Agenda for African Agriculture. https://www.oaklandinstitute.org/report/our-land-our-business/unholy-alliance

150 Brot fuer die Welt et al. (2020). False Promises: The Alliance for a Green Revolution in Africa (AGRA). https://www.rosalux.de/fileadmin/rls_uploads/pdfs/Studien/False_Promises_AGRA_en.pdf

151 Stacy Malkan. (August 28, 2023). Gates Foundation agriculture project in Africa flunks its own review. U.S. Right to Know. https://usrtk.org/bill-gates/gates-foundation-agriculture-project-in-africa-flunks-review/; Stacy Malkan. (March 18, 2026). Critiques of Gates Foundation's agricultural interventions in Africa. U.S. Right to Know. https://usrtk.org/bill-gates/critiques-of-gates-foundation/

152 Source data on file with Friends of the Earth U.S.

153 Source data on file with Friends of the Earth U.S.

154 Our definition borrows heavily from B. M. Hunter, D. McCoy, A. C. Cordilha, A. Marriott, V. Roy, F. Stein, and B. Wood. (2025). Private Financial Actors and Financialisation in Global Health. United Nations University International Institute for Global Health. https://pure.uva.nl/ws/files/217107177/Private_Financial_Actors_and_Financialisation_in_Global_Health.pdf

155 Manuel B. Aalbers. (March 6, 2017). Corporate Financialization. https://doi.org/10.1002/9781118786352.wbieg0598

156 Kean Birch and Fabian Muniesa. (July 14, 2020). Assetization: Turning Things into Assets in Technoscientific Capitalism. MIT Press.

157 Antonia Simon, Helen Penn, Atul Shah, Charlie Owen Eva Lloyd, Katie Hollingworth, and Katie Quy. (2021). Acquisitions, Mergers and Debt: the new language of childcare. UCL Social Research Institute. https://discovery.ucl.ac.uk/id/eprint/10142357/7/Childcare%20Main%20Report%20010222.pdf

158 Stefano Pagliari and Kevin Young. (February 2020). How Financialization is Reproduced Politically. In The Routledge International Handbook of Financialization. https://www.researchgate.net/publication/342344401_How_Financialization_is_Reproduced_Politically

159 Forests & Finance. (November 5, 2025). New Report: Banking on Biodiversity Collapse 2025. https://forestsandfinance.org/publications/new-report-banking-on-biodiversity-collapse-2025/

160 Rainforest Action Network et al. (2025). Banking on Climate Chaos. https://www.bankingonclimatechaos.org/

161 Arianna Muirrow and Andrew Behar. (October 28, 2024). How concentrated ownership in the food system increases risk – and what we can do about it. Impact Alpha. https://impactalpha.com/food-futures-how-concentrated-ownership-in-the-food-system-increases-risk-and-what-we-can-do-about-it/

162 Finance Watch. (June 5, 2019). Financialisation of Food. https://www.finance-watch.org/understand-finance/dashboard/financialisation-of-food/

Food and Agriculture Organization of the United Nations. (June 2010). Price surges in food markets. https://www.fao.org/4/al296e/al296e00.pdf

163 Andrea Baranes, Nicoletta Dentico, and Sabrina Masinjila. (2026). Society for International Development. Feeding Profits, Starving People: How Food Financialization is Eating the Planet. https://www.sidint.org/sites/default/files/2026-03/Feeding%20Profits%2C%20Starving%20People.pdf

164 Ibid.

165 Bretton Woods Project. (April 14, 2026). Hard-wiring hunger: Bretton Woods Institutions

and the financialisation of food systems. https://www.brettonwoodsproject.org/2026/04/hard-wiring-hungerbretton-woods-institutions-and-thefinancialisation-of-food-systems/

166 Ibid.

167 Ibid.

168 See, among many other sources, Jessica Dempsey, Audrey Irvine-Broque, Tova Gaster, Lorah Steichen, Patrick Bigger, Azul Carolina Duque, Amelia Linett, George Porto Ferreira, and Nicole Kaechele. (May 2024). Exporting Extinction: How the international financial system constrains biodiverse futures. The Centre for Climate Justice, Climate and Community Institute, and Third World Network. https://climatejustice.ubc.ca/news/exportingextinction-how-the-international-financial-system-constrains-biodiverse-futures

169 UN Conference on Trade and Development. (2025). A world of debt: It is time for reform. https://unctad.org/publication/world-of-debt

170 Raj Patel. The Value of Nothing: How to Reshape Market Society and Redefine Democracy. Picador, 2010

171 Martin Lipton. (September 17, 2020). The Friedman Essay and the True Purpose of the Business Corporation. Harvard Law School Forum on Corporate Governance. https://corpgov.law.harvard.edu/

172 Decker Walker, Kim Wagner, Gerry Hansell, Frank Plaschke, Ketil Gjerstad, and David Tapper. (February 2013). Making Hay: Value Creation in Agribusiness. Boston Consulting Group. https://web-assets.bcg.com/img-src/Making_Hay_Feb_2013_tcm9-99586.pdf

173 Friends of the Earth. (January 1, 2015.) Spinning Food. https://foe.org/resources/food-industry-shapes-story-food/ and https://foe.org/news/merchants-of-poison/

174 ETC-Group. (July 23, 2021). Hijacking food systems: technofix takeover at the FSS – The wrong kind of Food Systems Summit. https://www.etcgroup.org/content/hijacking-food-systems-technofix-takeover-fss

175 Michel Pimbert. (2022). Transforming Food and Agriculture: Competing Visions and Major Controversies. Mondes en développement, No 199-200(3), 361-384. https://doi.org/10.3917/e.med.199.0365

176 https://shs.cairn.info/journal-mondes-en-developpement-2022-3-page-361?lang=en

177 ETC Group. (October 16, 2017). Who Will Feed Us? The Peasant Food Web vs the Industrial Food Chain. https://www.etcgroup.org/content/who-will-feed-us-industrial-food-chain-vs-peasant-food-web

178 For citations, see the full report.

179 Society for International Development. (2026). Feeding Profits, Starving People: How Food Financialization is Eating the Planet. https://www.sidint.org/sites/default/files/2026-03/Feeding%20Profits%2C%20Starving%20People.pdf

180 Industry trade reports estimate the global agrifood market as $8.67 trillion in 2022. Allianz Trade. (June 2023). Agrifood Sector Report 2023. https://www.allianz-trade.com/en_AE/news-insights/trade_sector_reports/agrifood-report.html

181 FAO definition of the "journey of food from farm to table, including when it is grown, fished, harvested, processed, packaged, transported, distributed, traded, bought, prepared, eaten, and disposed of. It also encompasses nonfood products that also constitute livelihoods and all of the people as well as the activities, investments, and choices that play a part in getting us these food and agricultural products." FAO. (2021). Report of the Council of FAO – Hundred and Sixty-sixth Session, 26 April – 1 May 2021. CL 166/REP. Rome. https://www.fao.org/3/nf693en/nf693en.pdf. We excluded sectors such as mineral extraction, pharmaceutical sales (except for agricultural inputs), and inorganic chemical products. In some cases, we excluded data on textiles and pharmaceuticals altogether due to opaque or insufficient reporting.

182 Companies are generally able to hide profits in a number of ways, such as through share buybacks, extreme executive pay packages and dividends, the use of tax havens and shell companies, IP shelters, debt shifting, and transfer pricing, among others.

183 Catherine Douglas Moran. (July 3, 2024). Grocery industry profit margins fall to pre-pandemic levels: FMI. Grocery Dive.2024. https://www.grocerydive.com/news/grocery-industry-profit-margins-fall-to-pre-pandemic-levels-fmi/720517.

184 As an example of price gouging, we offer this: "In 2020, Walmart and Kroger saw windfall profits as the economy shut down, adding $45 billion to the Walton family wealth and 2 billion dollar rounds of Kroger stock buybacks. " Errol Schweizer. (August 28, 2024). How Grocery Cartels Created and Profited from Price Inflation. https://grocerynerd.substack.com/p/grocery-update-17-how-grocery-cartels

185 Vincent Kiezebrink and Maarten Hietland. (January 30, 2024). Hungry for profits: Monopoly power in global agriculture. SOMO. https://www.somo.nl/hungry-for-profits/

186 For example, companies such as PepsiCo, Nestlé, and Starbucks produce only consumable products and related packaging, so their entire revenue is considered to be "food-related." This data analysis was confirmed as consistent with the companies' self-reported revenue as being entirely food-related.

187 Sources for all data are found in the Appendix.

188 In a recent illustration of the trend of concentration, Bunge merged with Viterra in July 2025, forming a joint company with a reported initial market cap between $10.9 billion to $16.5 billion. https://investors.bunge.com/news-and-events/press-releases/2025/07-02-2025-181516376

189 In a recent illustration of the trend of concentration, Viterra merged with Bunge in July 2025, forming a joint company with a reported initial market cap between $10.9 billion to $16.5 billion. https://investors.bunge.com/news-and-events/press-releases/2025/07-02-2025-181516376

190 Raj Patel and Errol Schweize.(August 20, 2025). Op-ed: Public Grocery Stores Already Exist and Work Well. We Need More. Civil Eats. https://rajpatel.org/journalism-articles/public-groceries-already-exist-work-well-we-need-more-with-errol-schweizer/

191 Mike Buzalka. (March 29, 2022). The Top 50's nine largest K-12 market operators. FoodService Director. https://www.foodservicedirector.com/top-50-contract-companies/the-top-50-s-

nine-largest-k-12-market-operators

192 See Friends of the Earth U.S., SumOfUs, and Open Markets Institute. (November 2017). Bayer-Monsanto Merger: Big Data, Big Agriculture, Big Problems. https://foe.org/wp-content/uploads/2017/11/Bayer-Monsanto-merger-report-Nov-2017.pdf and Friends of the Earth U.S. and Open Markets Institute. (March 1, 2023). Agricultural Carbon Markets, Payments, and Data: Big Ag's Latest Power Grab. https://foe.org/resources/ag-carbon-markets-report/

193 Aarianna Muirow and Andrew Behar. (October 28, 2024). How concentrated ownership in the food system increases risk – and what we can do about it. ImpactAlpha. https://impactalpha.com/food-futures-how-concentrated-ownership-in-the-food-system-increases-risk-and-what-we-can-do-about-it/

194 Greenpeace International. (February 28, 2023). Unchecked, unregulated, unaccountable: how big agribusiness corporations get rich amid crisis. https://www.greenpeace.org/international/press-release/58426/food-security-agribusiness-rich-crisis/

195 Kim Souza. (February 19, 2026). Walmart annual revenue up almost 5%, net income up 12.6%. Talk Business & Politics. https://talkbusiness.net/2026/02/walmart-annual-revenue-up-almost-5-net-income-up-12-6/

196 Cristen Hemingway Jaynes. (September 28, 2023). IEA: Clean energy investment must reach $4.5 trillion per year by 2030 to limit warming to 1.5°C. https://www.weforum.org/stories/2023/09/iea-clean-energy-investment-global-warming/

197 TheGlobalEconomy.com. (n.d.) Government spending, in dollars - Country rankings. https://www.theglobaleconomy.com/rankings/government_spending_dollars/1000/

198 Keith Fuglie, Stephen Morgan, and Jeremy Jelliffe. (September 30, 2024). Global Changes in Agricultural Production, Productivity, and Resource Use Over Six Decades. USDA Economic Research Service. https://www.ers.usda.gov/amber-waves/2024/september/global-changes-in-agricultural-production-productivity-and-resource-use-over-six-decades#:~:text=In%20the%201960s%20and%201970s,from%2044%20percent%20in%201961

199 William I. Robinson and Jeb Sprague. (2018). The Transnational Capitalist Class. Oxford Handbook of Global Studies, 309–327. https://robinson.faculty.soc.ucsb.edu/Assets/pdf/TheTransnationalCapitalistClass.pdf

200 Cargill was founded in 1865, the Kroger Company was founded in 1883, Nestlé was founded in 1866, and PepsiCo was founded in 1898. These companies represent numbers 1, 4, 7 and 10 of the GH list by 2022 agrifood revenue, respectively.

201 Novartis. (n.d.). Company history. https://www.novartis.com/uk-en/about/who-we-are/company-history

202 Mondelēz International. (n.d.). Our History. https://www.mondelezinternational.com/about-us/who-we-are/our-history/

203 Jennifer Clapp. Titans of Industrial Agriculture. https://mitpress.mit.edu/9780262551700/titans-of-industrial-agriculture/

204 Kate Raworth. (March 12, 2018). Doughnut Economics: 7 Ways to Think Like a 21st Century Economist. https://www.chelseagreen.com/product/doughnut-economics-paperback/

205 These include seed and agrichemical companies Bayer, ChemChina/Syngenta, Nutrien, Yara, and Mosaic; commodity traders Louis Dreyfus, ADM, Bunge, Viterra, Olam, Itochu, Cargill, COFCO and Wilmar; meat, dairy, and protein companies Tyson Foods, JBS, Lactalis and WH Group; and food and beverage processing companies Anheuser-Busch, Coca-Cola, PepsiCo, Heineken, Nestlé, Danone, Mars, Mondelez, and CHS Inc. Sector concentration data available from https://www.etcgroup.org/ by request.

206 ETC Group. (June 13, 2025). Top Ten Agribusiness Giants: Corporate Concentration in Food and Farming in 2025. https://www.etcgroup.org/content/top-10-agribusiness-giants

207 ETC Group. (December 2025). Grain Traders, Greed and Oligopoly Power. https://www.etcgroup.org/sites/www.etcgroup.org/files/files/grain-traders-greed-oligopoly-power-final.pdf

208 Theo Gouveris. (2024). Competition in the Global Agricultural Value Chain: A Review of the Role of ABCD Giants Including Research on Their Public Visibility. Open Journal of Business and Management, 12, 4401-4412. https://www.scirp.org/journal/paperinformation?paperid=137711#:~:text=In%20terms%20of%20revenue%20and,focus%20will%20be%20explained%20later

209 Vincent Kiezebrink and Maarten Hietland. (January 30, 2024). Hungry for profits: Monopoly power in global agriculture. SOMO. https://www.somo.nl/hungry-for-profits/

210 Jennifer Clapp. (2022). The Rise of big food and agriculture: corporate influence in the food system, in Colin Sage (ed.), A Research Agenda for Food Systems, chapter 2, pages 45-66, Edward Elgar Publishing.

211 Among many others, see George Monbiot, Regenesis: Feeding the World Without Devouring the Planet, Penguin Books, 2022, p. 37.

212 Christophe Gouel. (2013). Optimal food price stabilization policy. European Economic Review, vol. 57, pp. 118-34. https://doi.org/10.1016/j.euroecorev.2012.10.003

213 ETC Group. (December 2025). Grain Traders, Greed and Oligopoly Power. https://www.etcgroup.org/sites/www.etcgroup.org/files/files/grain-traders-greed-oligopoly-power-final.pdf

214 Shefali Sharma. (September 8, 2021). Companies: dominating the market from farm to display case. Institute for Agriculture & Trade Policy. https://www.iatp.org/companies-dominating-market-farm-display-case

215 Oxfam. (May 24, 2022). Profiting from Pain: The urgency of taxing the rich amid a surge in billionaire wealth and a global cost-of-living crisis. https://www.oxfamamerica.org/explore/research-publications/profiting-from-pain/

216 Oxfam. (September 10, 2020). Companies profiting from the pandemic hand out big profits to shareholders, while people lose their jobs. https://oxfam.se/en/news/foretag-som-tjanar-pa-pandemin-delar-ut-storvinster-till-aktieagare-medan-manniskor-forlorar-sina-jobb/

217 Foodrise. (October 20, 2025). Roasting the Planet: Big Meat and Dairy's Big Emissions.. https://foodrise.org.uk/RoastingThePlanet

218 JBS. (August 2024). Sustainability Report: Executive Summary 2023. https://jbsesg.com/docs/JBS_2023_US_Sust_Executive_Summary.pdf#:~:text=Our%20net%20revenue%20

in%202023%20was%20US,a%20margin%20of%204.7%25%20for%20the%20year

219 Tyson Foods. (November 13, 2023). Tyson Foods Reports Fourth Quarter and Fiscal 2023 Results. https://ir.tyson.com/news/news-details/2023/Tyson-Foods-Reports-Fourth-Quarter-and-Fiscal-2023-Results/default.aspx

220 This figure is for Cargill total sales, 2023: https://www.reuters.com/markets/commodities/cargill-fiscal-2023-revenue-rises-7-record-177-billion-2023-08-03/ As a private company, Cargill does not disclose what percentage of overall sales are represented by its meat division. We therefore extrapolate from numerous sources, and rather than identifying a sales figure for meat, we place Cargill 3rd on this list.

221 Figures derived from https://api.mziq.com/mzfilemanager/v2/d/b8180300-b881-4e6c-b970-12ad72a86ec8/bfd29889-9907-571f-e894-3cf192d149f9?origin=2

222 The Cattle Site. (April 18, 2024). Lactalis says 2023 profitability hit by inflation. https://www.thecattlesite.com/news/lactalis-says-2023-profitability-hit-by-inflation#:~:text=Sales%20rose%204.3%25%20to%2029.5%20billion%20euros&text=Lactalis%2C%20privately%20controlled%20by%20the,the%20United%20States%20and%20Canada

223 Dairy News Today. (February 22, 2024). Nestlé Results 2023: total reported sales were CHF 93.0 billion. https://dairynews.today/global/news/nestl-results-2023-total-reported-sales-were-chf-93-0-billion.html

224 Dairy Foods. (October 27, 2025). Dairy Farmers of America ranks No. 2 on NCB Co-op 100 report. https://www.dairyfoods.com/articles/98608-dairy-farmers-of-america-ranks-no-2-on-ncb-co-op-100-report

225 Figure derived from https://www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2024/danone-tax-transparency-report-2023.pdf. Danone's earnings are reported in Euros; in FY 2023, dairy sales represented 52% of total sales.

226 Ayesha Ameen and Shahid Raza. (January 2018). Green Revolution: A Review. International Journal of Advances in Scientific Research. https://api.semanticscholar.org/CorpusID:55016996

227 Jack Ralph Kloppenburg Jr. (March 16, 2005). First the Seed: The Political Economy of Plant Biotechnology. 2nd ed. Madison: University of Wisconsin Press, 2004

228 Jennifer Clapp. Titans of Industrial Agriculture. https://mitpress.mit.edu/9780262551700/titans-of-industrial-agriculture/

229 ETC Group. (June 13, 2025). Top Ten Agribusiness Giants: Corporate Concentration in Food and Farming in 2025. https://www.etcgroup.org/content/top-10-agribusiness-giants

230 FAO. (2024). Revisiting seed company sales and profit. https://openknowledge.fao.org/server/api/core/ bitstreams/0535a5cd-2373-414c-8758-2349227dd52e/content

231 Sinofert (China) and K+S (Germany) are not included in the table, but their revenues in 2023 ($3,070 million and $2,943 million, respectively) are not far behind Uralkali. (See Sinofert Holdings Limited Annual report, 2023, https://www.hkexnews.hk/listedco/listconews/

sehk/2024/0425/2024042502498.pdf and K+S Annual report 2023, p. 58, https:// www.kpluss.com/.downloads/ir/2024/kpluss-annual-report-2023.pdf.) For the figures for 2020, see Hope Shand, Kathy Jo Wetter and Kavya Chowdhry, Food Barons 2022: Crisis Profiteering, Digitalization and Shifting Power, ETC Group, September 2022, https://www.etcgroup.org/files/files/food-barons-2022-full_sectors-final_16_sept.pdf.

232 Source: Companies' annual reports 2023 and Capital IQ.

233 World Bank Group. (July 22, 2022). World Bank's Food for 10 Billion Podcast: Fertilizer Volatility and the Food Crisis. https://www.worldbank.org/en/news/podcast/2022/07/22/ fertilizer-volatility-and-the-food-crisis

234 GRAIN and IATP. (May 23, 2023). A corporate cartel fertilises food inflation. https://grain.org/en/article/6988-a-corporate-cartel-fertilises-food-inflation

235 Friends of the Earth U.S., SumOfUs, and Open Markets Institute. (November 2017). Bayer-Monsanto Merger: Big Data, Big Agriculture, Big Problems. https://foe.org/wp-content/uploads/2017/11/Bayer-Monsanto-merger-report-Nov-2017.pdf

236 Friends of the Earth U.S. and Open Markets Institute. Agricultural Carbon Markets, Payments, and Data: Big Ag's Latest Power Grab. March 1, 2023. https://foe.org/resources/ag-carbon-markets-report/

237 ETC Group. (June 13, 2025). Top Ten Agribusiness Giants: Corporate Concentration in Food and Farming in 2025. https://www.etcgroup.org/content/top-10-agribusiness-giants

238 John Deere. (July 17, 2023). John Deere Acquires Smart Apply. (Press release). https://www.deere.com/en/news/all-news/john-deere-acquires-smart-apply/

239 John Deere. (September 18, 2024). See & Spray™ customers see 59% average herbicide savings in 2024. (Press release).https://www.deere.com/en/news/all-news/see-spray-herbicide-savings/

240 See Syngenta Group. (November 13, 2023). Syngenta Group and CNH Industrial connect digital applications to better serve farmers. https://www.syngentagroup.com/newsroom/2023/syngenta-group-and-cnh-industrial-connect-digital-applications-better-serve-farmers and InnerPlant's website here: https://innerplant.com/join-innercircle/ .

241 Original briefing paper: African Centre for Biodiversity. (September 2023). financialisation, dematerialisation, digitilisation & distancing of Africa's agriculture: What future for small-scale farmers and their food and seed systems? https://acbio.org.za/wp-content/uploads/2023/09/Financialisation-digitalisation-of-Africa-agriculture_what-future-smallholders_fin.pdf. TWN summary: https://www.twn.my/title2/susagri/2023/sa1086.htm#:~:text=Digitalisation%20is%20an%20enabler%20of,to%20land%20access%20and%20ownership

242 Tobias J. Klinge, Rodrigo Fernandez, and Manuel B. Aalbers. (December 15, 2020). The Financialization of Big Pharma. Revista Internacional de Sociología. 78(4):e174. https://doi.org/10.3989/ris.2020.78.4.m20.006

243 Ibid.

244 Zoetis. (January 14, 2025). A Best in Breed Growth Strategy. https://s203.q4cdn.

com/620628704/ f iles/doc_events/2025/Jan/14/Zoetis-JPM-Healthcare-Conference-Presentation.pdf). See also GlobeNewswire. (November 14, 2024). Animal Health Global Market Insights Report 2024, Featuring Elanco, Zoetis, Phibro, Vetoquinol, Ceva, Merck, DSM, IFF Danisco Animal Nutrition, Huvepharma, Dechra Pharmaceuticals and Virbac. https://www.globenewswire.com/news-release/2024/11/14/2980879/28124/en/ Animal-Health-Global-Market-Insights-Report-2024-Featuring-Elanco-Zoetis-PhibroVetoquinol-Ceva-Merck-DSM-IFF-Danisco-Animal-Nutrition-Huvepharma-DechraPharmaceuticals-and-Virbac.html.

245 CEESA. (n.d.). The global animal health industry in profile 2023. https://ceesa.eu/wp-admin/admin:ajax.php?action=downloadpdf&pID=5543

246 Source data on file with Friends of the Earth U.S.

247 This brief section owes a tremendous debt to ETC Group, and specifically to: ETC Group. (2019) Plate Tech-tonics: Mapping Corporate Power in Big Food. https://www.etcgroup.org/files/files/etc_platetechtonics_a4_nov2019_web.pdf

248 Liam Keenan, Timothy Monteath, Dariusz Wójcik, (2023) Hungry for power: financialization and the concentration of corporate control in the global food system, Geoforum, Volume 147 https://doi.org/10.1016/j.geoforum.2023.103909.

249 Einer Elhauge, (2019) "The Greatest Anticompetitive Threat of Our Time: Fixing the Horizontal Shareholding Problem," Blog of the Stigler Center at the University of Chicago Booth School of Business. https://www.promarket.org/2019/01/07/greatest-anticompetitive-threat-horizontal-shareholding/

250 Mohammad Torshizi and Jennifer Clapp. (2019) Price Effects of Common Ownership in the Seed Sector. Antitrust Bulletin, 66. https://ssrn.com/abstract=3338485

251 Source data on file with Friends of the Earth U.S.

252 Katherine Sievert, Philip H. Howard, Alexandre San Martim Portes, and Marina Yamaoka. (March 17, 2025). 'National champions' in global meat supply chains: implications for governance and corporate power in food systems. Taylor & Francis. https://www.tandfonline.com/doi/full/10.1080/03066150.2025.2471084 - abstract

253 UN Conference on Trade and Development. On the Brink: Trade, finance and the reshaping of the global economy. https://unctad.org/publication/trade-and-development-report-2025. See, in particular, Chapter 3, "The Financial Architecture of Global Food Trading: New Patterns and Emerging Risks."

254 Michel P. Pimbert. (July 10, 2025). Financing agroecological transformations for territorial agrifood systems: Beyond the myth of financial scarcity. Elementa. https://online.ucpress.edu/elementa/article/13/1/00026/212292/Financing-agroecological-transformations-for

255 OECD. (October 30, 2025). Agricultural Policy Monitoring and Evaluation 2025. https://www.oecd.org/en/publications/agricultural-policy-monitoring-and-evaluation-2025_a80ac398-en/full-report/overview-of-agricultural-policies-and-support_68470b91.html#:~:text=Governments%20need%20coherent%20agricultural%20and,of%20each%20type%20of%20

256 IPES-Food. (February 2026). Head In The Cloud: Challenging the false promise of digital agriculture and cultivating innovation from the ground up. https://ipes-food.org/report/head-in-the-cloud

257 Michel P. Pimbert, op. cit.

258 Sylvia Kay. (May 2014). Reclaiming Agricultural Investment: Towards Public-Peasant Investment Synergies. Transnational Institute. https://www.tni.org/files/download/reclaiming_agricultural_investment.pdf

259 HLPE. (Jully 2019). Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. https://www.fao.org/3/ca5602en/ca5602en.pdf

260 Jennifer Clapp and S. Ryan Isakson. (January 16, 2018). Risky Returns: The Implications of Financialization in the Food System. Development and Change, 49: 437-460. https://onlinelibrary.wiley.com/doi/abs/10.1111/dech.12376

261 Campesina. (May 17, 2026). What is Food Sovereignty? https://viacampesina.org/en/what-is-food-sovereignty/

262 United Nations. (December 17, 2018). Declaration on the Rights of Peasants and Other People Working in Rural Areas. https://digitallibrary.un.org/record/1661560?ln=en&v=pdf

263 For example, companies such as Pepsi Co, Nestlé, and Starbucks produce only consumable products and related packaging, so their entire revenue is considered to be "food-related." This data analysis was confirmed as consistent with the companies' self-reported revenue as being entirely food-related.

264 For more information on these topics, see ETC Group. (September 7, 2022). Food Barons 2022: Crisis Profiteering, Digitalization and Shifting Power. https://www.etcgroup.org/content/food-barons-2022; Jennifer Clapp. (February 8, 2025). Titans of Industrial Agriculture: How a Few Giant Corporations Came to Dominate the Farm Sector and Why it Matters. https://mitpress.mit.edu/9780262551700/titans-of-industrial-agriculture/, and Katherine Sievert, Philip H. Howard, Alexandre San Martim Portes, and Marina Yamaoka. (March 17, 2025). 'National champions' in global meat supply chains: implications for governance and corporate power in food systems. Taylor & Francis. https://www.tandfonline.com/doi/full/10.1080/03066150.2025.2471084 - abstract.

265 Note that agribusiness is a constantly evolving space, particularly as companies merge with or acquire one another. So, the Agrifood 100 list will differ slightly, depending on the year.

266 Some updates since 2022 are not reflected in this list: Bunge acquired food processor and wholesale trader Viterra in 2023; Mars, Inc. acquired snack company Kellanova (formerly Kellogg) in 2024; wholesale company Metro AG went private in 2025. These shifts reflect the ongoing consolidation trend shaping the food system.

267 Noah Zahn. (June 26, 2023). The cost of growth: Fertilizer companies cash in while farmers and communities struggle. https://investigatemidwest.org/2023/06/26/the-cost-of-growth-fertilizer-companies-cash-in-while-farmers-and-communities-struggle/

268 Arianna Muirow and Andrew Behar. (October 28, 2024). How concentrated ownership in the food system increases risk – and what we can do about it. Impact Alpha. https://impactalpha.com/food-futures-how-concentrated-ownership-in-the-food-system-increases-risk-and-

what-we-can-do-about-it/

269 For example, Coca-Cola is produced and distributed by the Coca Cola Company, based in the United States, as well as by separate company Coca-Cola Europacific Partners PLC, based in the United Kingdom. For the purposes of this research, the revenue of these two companies was combined to determine "Coca-Cola's" global revenue. Further complicating this example is the inclusion of the Mexican company Fomento Económico Mexicano, S.A.B. de C.V., commonly known as FEMSA. FEMSA operates the largest Coca Cola bottling plant, Coca-Cola FEMSA, of which the Coca Cola Company owns 28%. FEMSA also operates OXXO, the largest convenience store chain in Mexico, generating a separate agrifood revenue stream that was disaggregated from Coca Cola's revenue for this reporting.

270 For example, China Co-op Group Co., Ltd., which produces pesticides, seeds, and fertilizers, is owned by All China Federation of Supply and Marketing Cooperatives, a government institution of China. Similarly, China National Chemical Corporation Limited and related entity Syngenta Group Co., Ltd. both operate under Sinochem Holdings, a central state-owned enterprise of China. Viterra Limited, the global agricultural services provider, is owned by three primary shareholders: Glencore, the Canada Pension Plan Investment Board, and the British Columbia Investment Management Corporation. In another example, the Louis Dreyfus Company, a major agricultural processor and trader, is owned by the Akira Holding Foundation, a Liechtenstein-based operation that is also a major supplier to the United States Department of Defense.

271 FAO. (July1, 2021). Report of the Council of FAO – Hundred and Sixty-sixth Session, 26 April – 1 May 2021. *https://www.fao.org/3/nf693en/nf693en.pdf*

272 Data compiled from company reports, industry analyses, and licensed database sources.

273 Adasina Social Capital. *https://adasina.com/*

274 For example, Coca-Cola is produced and distributed by the Coca Cola Company, based in the United States, as well as by separate company Coca-Cola Europacific Partners PLC, based in the United Kingdom. For the purposes of this research, the revenue of these two companies was combined to determine "Coca-Cola's" global revenue. Additional company revenues that were combined across technically separate corporate structures and/or subsidiary structures include Aldi, Jeronimo Martins, ITM and New Hope.

275 For example, this analysis assumes that the revenue of subsidiary ITM Alimentaire International SAS is included in the financial reporting of parent company ITM Entreprises SAS.

276 World Benchmarking Alliance. *https://www.worldbenchmarkingalliance.org/*

277 Flywheel Data. *https://flywheeldata.com/*

278 World Benchmarking Alliance. *https://www.worldbenchmarkingalliance.org/*

Food, Land & Money examines how industrial agribusiness and global finance have become deeply intertwined — concentrating power, extracting value, and leaving farmers, communities and ecosystems to carry the risk.

It makes the case for shifting finance away from the Agribusiness Financial Complex and toward diverse, resilient food systems rooted in local control, reciprocity and food sovereignty.

The alternative already exists.
It needs to be defended, strengthened and funded.

Produced by Friends of the Earth United States, with support and endorsement by:
A Growing Culture, ActionAid Brazil, ActionAid USA, Adasina Social Capital, Alliance for Food Sovereignty in Africa, Amazon Watch, BankTrack, Brazilian Network for Social Justice and Human Rights (Rede Social de Justiça e Direitos Humanos), Foodrise UK, Liberating Investment in the Food & Farming Ecosystem (LIFE), Rainforest Action Network, Seeding Reparations

foodlandmoney.org

Friends of the Earth United States

foe.org