

Power Play

The Future of Food



Colin Todhunter

Global Research

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Cover image: Bags of chilli outside a wholesaler in the George Town area of Chennai in 2024 by the author. Emblematic of Chennai's role as a major spice trading hub. Spices have been a cornerstone of South Indian commerce for centuries, and Chennai, with its strategic port location, has long been a key player in this trade. The prominence of chilli highlights its significance in South Indian cuisine and culture. While modern supermarkets and online platforms are changing consumer habits, wholesale markets like those in George Town continue to serve an essential function in the supply chain.

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[Colin Todhunter - Academia.edu](https://www.academia.edu/colin-todhunter)

Endorsements

Aruna Rodrigues, lead petitioner in the GMO mustard Public Interest Litigation in the Supreme Court of India, stated the following about the author's 2022 e-book *Food, Dispossession and Dependency. Resisting the New World Order*:

“Colin Todhunter at his best: this is graphic, a detailed horror tale in the making for India, an exposé on what is planned, via the farm laws, to hand over Indian sovereignty and food security to big business. There will come a time pretty soon — (not something out there but imminent, unfolding even now), when we will pay the Cargills, Ambanis, Bill Gates, Walmarts — in the absence of national buffer food stocks (an agri policy change to cash crops, the end to small-scale farmers, pushed aside by contract farming and GM crops) — we will pay them to send us food and finance borrowing from international markets to do it.”

Frederic Mousseau, Policy Director at the Oakland Institute, says the following about the author's work:

“It takes a book to break down the dynamics that are pushing agro-chemical agriculture to farmers and consumers around the world and to reveal the strength of the diverse movement of people and organizations who stand in the way of these destructive and predatory forces.

“Colin Todhunter takes readers on a world tour that makes a compelling case against the fallacy of the food scarcity and Green Revolution arguments advanced by the mainstream media and

international institutions on behalf of powerful financial interests such as Blackrock, Vanguard, or Gates. Todhunter makes it obvious that a key factor of world hunger and of the environmental crisis we are facing is a capitalist system that ‘requires constant growth, expanding markets and sufficient demand.’

“Uplifting rather than depressing, after this lucid diagnosis, he highlights some of the countless people-led initiatives and movements, from Cuba, Ethiopia to India, that fight back against destruction and predation with agroecology and farmers-led practices, respectful of the people and the planet. By debunking the “artificial scarcity” myth that is constantly fed to us, Todhunter demonstrates that it is actually not complicated to change course. Readers will just have to join the movement.”

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Introduction

This ebook provides insight into aspects of the global food system, including the micronutrient crisis, contested climate emergency rhetoric and its use in implementing the rollout of controlling technologies, the emergence and influence of digital platforms in shaping agricultural practices and the increasing corporate capture of Indian agriculture.

The book is the third instalment in a trilogy of ebooks by the author exploring the global food system. It evolved from a series of articles originally published by various media outlets and written by the author and follows the February 2022 publication of *Food, Dependency and Dispossession: Resisting the New World Order* and the December 2023 release of *Sickening Profits: The Global Food System's Poisoned Food and Toxic Wealth*.

When read together, the three books provide an overarching critique of contemporary food systems and possible solutions. For instance, the first book presents a more in-depth discussion of agroecology, the role of the Gates Foundation, the impact of pesticides, the state of agriculture in India, including the 2020-21 farmers protest, and the issue of development.

The second book touches on some of those issues but broadens the debate to look at ecomodernism, food-related ill health, the role of big finance in the food system and the post-Covid food crisis. While readers do not have to read the first two books, it might help in providing added context and insights.

This new book draws on and develops many of the themes presented in the first two. In particular, it returns to India to explore what has

happened over the last 22 months (since the publication of the first book).

More generally, it looks at the intertwining of political centralisation and corporate consolidation that is undermining democratic processes, economic diversity and local autonomy. This unholy alliance is creating a self-reinforcing, technocratic dystopia that concentrates power in the hands of a super-wealthy elite, which increasingly depicts anyone who challenges it as the 'enemy within'.

In this respect, the book weds the topic of food to the wider dynamics of power in society, which is becoming increasingly concentrated, resulting in the domination of both resources and populations and seeking to shape the very fabric of our lives and beliefs about who we are and what we could or should be. Such an analysis is integral to gaining a deeper understanding of the food system and the influence of global agribusiness and the tech giants that are increasingly moving into the food and agriculture sector.

The following discussion is driven by a conviction in the transformative power of re-localising food systems, revitalising traditional ecological wisdom and rekindling our connection to the land that nourishes us. At its core, it challenges us to question our understanding of human progress and development.

Chapter I

Consolidated Power

By focusing on the nature of power and certain challenges and issues that we face, this introductory chapter establishes a foundational framework for what appears in the subsequent chapters.

We live in a world that sees political power becoming increasingly centralised. In turn, this creates an environment ripe for corporate influence. Large corporations, with their vast resources, can more easily focus their lobbying efforts and capture policymaking bodies at national and international levels than at a more fragmented local or regional level, leading to regulations and laws that favour big business over small enterprises and the needs and rights of ordinary people. This results in a landscape dominated by a handful of corporate giants, each wielding enormous economic and political clout.

This consolidation of corporate power further reinforces political centralisation, as wealthy corporations (for example, think big pharma and big agribusiness) can effectively dictate policy through campaign contributions, lobbying efforts and the revolving door between government and industry. The voice of the average citizen is drowned out by the influence of corporate power.

As a result of this corporate monopolisation, local markets and small businesses, once the backbone of communities, are being systematically crushed under the weight of centralised state-corporate

power. Unable to compete with the economies of scale and political influence of large corporations, they are forced to close their doors or sell out to larger entities. This not only reduces choice and drives up prices but also strips communities of their unique character and economic self-determination.

The global interests served by this system are at odds with local needs and values. Decisions made in distant boardrooms and government offices fail to account for the nuanced realities of diverse communities. Environmental concerns are brushed aside in favour of short-term profits, while cultural traditions are homogenised to fit corporate needs.

Democratic processes, designed to give voice to the many, are subverted to serve the interests of the few. Real power resides in the hands of those who control the purse strings, and public discourse is shaped by the corporate media (often part of larger conglomerates), limiting the range of ideas and stifling dissent.

At the same time, when decision-making is concentrated in a few hands, the potential for catastrophic errors increases. Over-centralised, corporate-dominated supply chains are vulnerable to disruptions, leading to shortages of essential goods that can ripple across the globe.

The consolidation of corporate power in key sectors like agriculture creates dangerous monopolies that can manipulate markets, exploit farmers and ignore environmental safeguards with impunity.

The struggle against the intertwining of political centralisation and corporate consolidation is a battle for a future where power is distributed equitably, where local voices matter and where the

interests of communities and the environment take precedence over corporate profits.

The stakes could not be higher. If we fail to check the runaway consolidation of political and corporate power, we risk sliding into a form of corporate feudalism or techno-feudalism, where the vast majority of people are reduced to serfs in service of a powerful elite.

Food and agriculture

More specifically, the [consolidation of corporate power in food and agriculture](#) has far-reaching and deeply concerning implications for farmers, ordinary people and the environment. This concentration of control in the hands of a few transnational corporations has created a system that prioritises profit over ecological sustainability, health and food sovereignty.

For farmers, the consequences are dire. The consolidation of the agriculture industry has led to a dramatic reduction in the number of small farms. The shift towards large-scale industrial farming has not only pushed many small farmers out of business but also trapped those who remain in a cycle of dependency on a handful of corporations for seeds, chemicals and market access. This loss of autonomy leaves farmers vulnerable to exploitative practices and reduces their ability to make decisions based on local needs and conditions.

The impact on the wider population is equally troubling. While the illusion of choice persists in grocery stores, the reality is that a [small number](#) of corporations control the majority of food products. This concentration of power allows these companies to manipulate prices via aggressive discounting to destroy competition or to engage in

profiteering through unnecessary price increases. Moreover, the focus on highly profitable, low-cost-ingredient processed foods high in fats, sugars and salt has contributed to a global health crisis, with rising rates of obesity and diet-related chronic diseases.

Environmentally, the consequences of this corporate-controlled system are catastrophic. The industrial agricultural model promoted by these large corporations relies heavily on chemical inputs, monoculture farming and practices that degrade soil health, waterways and biodiversity.

The centralisation of food production and distribution has also created a dangerously fragile system. As the COVID event demonstrated, disruptions in this highly consolidated supply chain can quickly lead to food shortages and price spikes. This lack of resilience poses a serious threat to global food security, particularly in times of crisis.

Perhaps most alarmingly, this consolidated system is eroding food sovereignty — 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. As global corporations increasingly control what is grown and how it is distributed, local communities lose the ability to make decisions about their food systems.

The adverse implications of corporate consolidation in our food and agriculture system are profound and far-reaching. They threaten not only our current food security and public health but also the long-term sustainability of the planet's food production capacity. Addressing this issue is not just about changing our food system; it's about reclaiming democratic rights and ensuring a just and sustainable future for all.

In India, as will be shown, the trends outlined above have concerning implications. These trends, driven by neoliberal policies and the growing influence of transnational corporations, are reshaping the landscape of Indian agriculture in ways that threaten traditional farming practices, food security and rural livelihoods.

One of the most significant impacts is on small and marginal farmers, who make up about 85 per cent of India's farming community (the importance of small farms will be discussed later). As corporate entities gain more control over various stages of the agricultural chain, these farmers face increasing pressure and vulnerability. They often find themselves at a disadvantage when negotiating prices or accessing markets, leading to reduced incomes and increased debt.

The consolidation of power in the hands of a few large corporations also poses a threat to India's food sovereignty. As these companies gain control over seeds, inputs and distribution channels, we could see a further reduction in crop diversity and a shift towards monoculture (contract) farming.

This may also exacerbate the overuse of money-spinning proprietary chemical inputs, the degradation of soil and human health and the depletion of water resources, which are already major concerns in the country. The environmental costs of this approach are significant and could have long-lasting impacts on India's agricultural productivity and food security.

Furthermore, the corporatisation of agriculture threatens to erode traditional farming knowledge and practices that have been developed over generations. These practices, often more suited to local ecological conditions and more sustainable in the long term, risk being lost as

standardised, corporate-driven farming ends up commodifying knowledge and practices (this will become clear later).

The impact on rural communities extends beyond just the economic sphere. As the corporatisation of agriculture takes hold, there's a risk of further rural-urban migration, as small farmers are pushed off their land. This can lead to the breakdown of rural social structures and exacerbate urban poverty and unemployment.

The influence of corporate interests on agricultural research and policy is also a matter of concern. When private sector funding becomes more dominant in agricultural research, there is a risk that research priorities become skewed towards corporate interests rather than the needs of small farmers or ecological sustainability.

Across the globe, an insidious corporatisation is reshaping agriculture. The consequences of this shift are far-reaching and deeply troubling, touching every aspect of the food system and, by extension, the very fabric of our societies.

These corporations tell us that such a process goes hand in hand with the modernisation of the sector. The narrative of the need to 'modernise agriculture' pushed by corporations like Bayer, Corteva and Syngenta is nothing more than a thinly veiled attempt to secure control of the agricultural sector and ensure corporate dependency.

Their vision of 'development' entails decision-making centralised in the hands of government and corporate entities, systematically weakening traditional local governance structures, and pushing top-down policies that favour large-scale industrial farming at the expense of small-scale, diversified agriculture.

Ultimately, the struggle against corporate consolidation in agriculture is not just about changing our food system. It's about recognising that food is not just a commodity but a fundamental human right and a cornerstone of our cultures and communities.

There is a battle for the soul of our food system, for the future of our rural communities, for the health of our ecosystems and for the very nature of our societies. It's a fight we cannot afford to lose. We must stand united to reclaim our food sovereignty and build a food system that nourishes not just our bodies but our communities.

A fundamental restructuring of our food and agriculture systems is required. This should include antitrust enforcement to break up corporate monopolies, policies that support small and medium-sized farms and investment in research for agroecological farming methods. We must also work to shorten supply chains, promoting local food systems and territorial markets that are more resilient and responsive to community needs.

The path ahead is challenging, but the alternative of a world where our food system is controlled by a handful of corporations, where biodiversity is decimated, where farmers are reduced to serfs on their own land and where our health is sacrificed for corporate profits is simply unacceptable.

Chapter II

Sick to Death

The world is experiencing a micronutrient food and health crisis. Micronutrient deficiency now affects billions of people. Micronutrients are key vitamins and minerals and deficiencies can cause severe health conditions. They are important for various functions, including blood clotting, brain development, the immune system, energy production and bone health, and play a critical role in disease prevention.

The root of the crisis is due to an increased reliance on ultra processed foods ('junk food') and the way that modern food crops are grown in terms of the seeds used, the plants produced, the synthetic inputs required (fertilisers, pesticides etc.) and the effects on soil.

In 2007, nutritional therapist David Thomas [noted a precipitous change](#) in the USA towards convenience and pre-prepared foods often devoid of vital micronutrients yet packed with a cocktail of chemical additives, including colourings, flavourings and preservatives.

He noted that between 1940 and 2002 the character, growing methods, preparation, source and ultimate presentation of basic staples had changed significantly to the extent that trace elements and micronutrient contents have been severely depleted. Thomas added that ongoing research clearly demonstrates a significant relationship between deficiencies in micronutrients and physical and mental ill health.

Prior to the Green Revolution, many of the older crops that were displaced carried [dramatically higher counts of nutrients](#) per calorie. For instance, the iron content of millet is four times that of rice, and oats carry four times more zinc than wheat. As a result, between 1961 and 2011, the protein, zinc and iron contents of the world's directly consumed cereals declined by 4 per cent, 5 per cent and 19 per cent, respectively.

The authors of [a 2010 paper](#) in the International Journal of Environmental and Rural Development state that cropping systems promoted by the Green Revolution have resulted in reduced food-crop diversity and decreased availability of micronutrients. They note that micronutrient malnutrition is causing increased rates of cancer, heart disease, stroke, diabetes and osteoporosis in many lower income nations. They add that soils are increasingly affected by micronutrient disorders.

In 2016, India's [Central Soil Water Conservation Research and Training Institute](#) reported that the country was losing 5,334 million tonnes of soil every year due to soil erosion because of indiscreet and excessive use of fertilisers, insecticides and pesticides over the years. On average, 16.4 tonnes of fertile soil is lost every year per hectare. It concluded that the non-judicious use of synthetic fertilisers had led to the deterioration of soil fertility causing loss of micro and macronutrients leading to poor soils and low yields.

The high-input, chemical-intensive Green Revolution with its hybrid seeds and synthetic fertilisers and pesticides helped the drive towards greater monocropping and has resulted in [less diverse diets](#) and [less nutritious](#) foods. Its long-term impact has led to soil degradation and

mineral imbalances, which, in turn, have adversely affected human health.

But micronutrient depletion is not just due to a displacement of nutrient-dense staples in the diet or unhealthy soils. Take wheat, for example. Rothamsted Research in the UK has evaluated the mineral concentration of archived wheat grain and soil samples from the Broadbalk Wheat Experiment. The experiment began in 1843, and the findings show significant decreasing trends in the concentrations of zinc, copper, iron and magnesium in wheat grain since the 1960s.

[The researchers say that](#) the concentrations of these four minerals remained stable between 1845 and the mid 1960s but have since decreased significantly by 20-30 per cent. This coincided with the introduction of Green Revolution semi-dwarf, high-yielding cultivars. They noted that the concentrations in soil used in the experiment have either increased or remained stable. So, in this case, soil is not the issue.

A 2021 paper that appeared in [the journal of Environmental and Experimental Botany](#) reported that the large increase in the proportion of the global population suffering from zinc and iron deficiency over the last four decades has occurred since the Green Revolution and the introduction of its cultivars.

Reflecting the findings of Rothamsted Research in the UK, a recent study led by Indian Council of Agricultural Research scientists found the grains eaten in India have lost food value. They conclude that many of today's crops fail to absorb sufficient nutrients even when soil is healthy.

The January 2024 article [Indians consuming rice and wheat low in food value, high in toxins](#) on the Down to Earth website reported on a study that found that rice and wheat, which meet over 50 per cent of the daily energy requirements of people in India, have lost up to 45 per cent of their food value in the past 50 years or so.

The concentration of essential nutrients like zinc and iron has decreased by 33 per cent and 27 per cent in rice and by 30 per cent and 19 per cent in wheat, respectively. At the same time, the concentration of arsenic, a toxic element, in rice has increased by 1,493 per cent.

Down to Earth also cites research by the Indian Council of Medical Research that indicates a 25 per cent rise in non-communicable diseases among the Indian population from 1990 to 2016.

India is home to one-third of the two billion global population suffering from micronutrient deficiency. This is partly because modern-bred cultivars of rice and wheat are less efficient in sequestering zinc and iron, regardless of their abundance in soils. Plants have lost their capacity to take up nutrients from the soil.

Increasing prevalence of diabetes, childhood leukaemia, childhood obesity, cardiovascular disorders, infertility, osteoporosis and rheumatoid arthritis, mental illnesses and so on have all been shown to have some [direct relationship](#) to diet and specifically micronutrient deficiency.

The large increase in the proportion of the global population suffering from zinc and iron deficiency over the last four decades has coincided with the global expansion of high-yielding, input-responsive cereal cultivars released in the post-Green Revolution era.

Agriculture and policy analyst [Devinder Sharma](#) says that high yield is inversely proportionate to plant nutrition: the drop in nutrition levels is so much that the high-yielding new wheat varieties have seen a steep fall in copper content, an essential trace mineral, by as much as 80 per cent, and some nutritionists ascribe this to a rise in cholesterol-related incidences across the world.

India is self-sufficient in various staples, but many of these foodstuffs are high calorie-low nutrient and have led to the displacement of more nutritionally diverse cropping systems and more nutrient-dense crops.

The importance of agronomist [William Albrecht](#) should not be overlooked here and his work on healthy soils and healthy people. In his experiments, he found that cows fed on less nutrient-dense crops ate more while cows that ate nutrient-rich grass stopped eating once their nutritional intake was satisfied. This may be one reason why we see rising rates of obesity at a time of micronutrient food insecurity.

It is interesting that, given the above discussion on the Green Revolution's adverse impacts on nutrition, the paper [New Histories of the Green Revolution](#) (2019) by Prof. Glenn Stone debunks the claim that the Green Revolution boosted productivity: it merely put more (nutrient-deficient) wheat into the Indian diet at the expense of other food crops. Stone argues that food productivity per capita showed no increase or even actually decreased.

With this in mind, the table below makes for interesting reading. The data is provided by the National Productivity Council India (an autonomous body of the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry).

Average Annual Growth Rates in Yields per Hectare		
Crop	Pre-Green Revolution	Green Revolution
	1951-52 to 1967-68	1968-69 to 1980-81
Wheat	3.7	3.3
Rice	3.2	2.7
Jowar	3.4	2.9
Bajra	2.6	6.3
Maize	4.8	1.7
Coarse Cereals	2.6	1.5
Pulses	2.3	-0.2
Oilseeds	1.3	0.8
Cotton	3.0	2.6
Sugarcane	1.6	3.1

As mentioned earlier with reference to Albrecht, obesity has become a concern worldwide, including in India. This problem is multi-dimensional and, as alluded to, excess calorific intake and nutrient-poor food is a factor, leading to the consumption of sugary, fat-laden ultra processed food in an attempt to fill the nutritional gap. But there is also considerable evidence linking human exposure to agrochemicals with obesity.

The September 2020 paper [Agrochemicals and Obesity](#) in the journal *Molecular and Cellular Endocrinology* summarises human epidemiological evidence and experimental animal studies supporting the association between agrochemical exposure and obesity and outlines possible mechanistic underpinnings for this link.

Numerous other studies have also noted that exposure to pesticides has been associated with obesity and diabetes. For example, a 2022 paper in [the journal Endocrine](#) reports that first contact with

environmental pesticides occurs during critical phases of life, such as gestation and lactation, which can lead to damage in central and peripheral tissues, subsequently programming disorders early and later in life.

A [2013 paper in the journal Entropy on pathways to modern diseases](#) reported that glyphosate (the active ingredient in Bayer-Monsanto's Roundup), the most popular herbicide used worldwide, enhances the damaging effects of other food borne chemical residues and environmental toxins. The negative impact is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body, resulting in conditions associated with a Western diet, which include gastrointestinal disorders, obesity, diabetes, heart disease, depression, autism, infertility, cancer and Alzheimer's disease.

Despite these findings, campaigner [Rosemary Mason](#) has drawn attention to how official government and industry narratives try to divert attention from the role of glyphosate in obesity (and other conditions) by urging the public to exercise and cut down on "biscuits".

In a January 2024 article, Kit Knightly, on the [OffGuardian website](#), notes how big pharma is attempting to individualise obesity and make millions by pushing its 'medical cures' and drugs for the condition.

To deal with micronutrient deficiencies, other money-spinning initiatives for industry are being pushed, not least biofortification of foodstuffs and plants and genetic engineering.

Industry narratives have nothing to say about the food system itself in terms of food being regarded as just another commodity to be rinsed

for profit regardless of the impacts on human health or the environment. We simply witness more techno-fix 'solutions' being rolled out to supposedly address the impacts of previous 'innovations' and policy decisions that benefitted the bottom line of Western agribusiness (and big pharma, which profits from the rising rates of disease and conditions).

Quick techno-fixes do not offer genuine solutions to the problems outlined above. Such solutions involve challenging corporate power that shapes narratives and policies to suit its agenda. Healthy food, healthy people and healthy societies are not created at some ever-sprawling life sciences park that specialises in manipulating food and the human body (for corporate gain) under the banner of 'innovation' and 'health' while leaving intact the power relations that underpin bad food and ill health.

A radical overhaul of the food system is required, from how food is grown to how society should be organised. This involves creating food sovereignty, encouraging localism, local markets and short supply chains, rejecting neoliberal globalisation, supporting smallholder agriculture and land reform while incentivising agroecological practices that build soil fertility, use and develop high-productive landraces and a focus on nutrition per acre rather than increased grain size, 'yield' and 'output'.

That's how you create healthy food, healthy people and healthy societies.

Chapter III

Commodification of Farmland

The relationship between financial investment and the commodification of farmland is increasingly significant for understanding the dynamics of modern agriculture and its implications for food systems. Financial institutions, including pension funds and investment firms, have turned farmland into a lucrative asset class, helping to fuel a paradigm shift in agricultural practices.

This financialisation of farmland not only affects the economic landscape, opening up fresh investment opportunities, but also perpetuates an industrial agricultural model that prioritises profit over sustainability, sound agricultural practices and public health.

The commodification of farmland involves transforming land into a tradable commodity, which is driven by the interests of big financial entities seeking high returns on their investments. This financial pressure leads to the aggregation of land into larger, industrial-scale farms owned by corporations or investment funds, which tend to employ input-intensive farming practices that degrade soil health and reduce biodiversity.

The influx of capital into farmland has further fuelled an industrial agricultural model characterised by monocultures, heavy reliance on chemical inputs and a focus on maximising yields at the expense of

human health, ecological balance and a systems approach (more on this later).

The shift towards large-scale intensive farming operations has also diminished the role of smallholder farmers, who have traditionally played a major role in local food security and rural economies, thereby undermining community resilience and exacerbating food insecurity.

Financial asset

Between 2008 and 2022, land prices nearly doubled throughout the world and tripled in Central-Eastern Europe. In the UK, an influx of investment from pension funds and private wealth contributed to a doubling of farmland prices from 2010-2015. Land prices in the US agricultural heartlands of Iowa quadrupled between 2002 and 2020.

Agricultural investment funds rose ten-fold between 2005 and 2018 and now regularly include farmland as a stand-alone asset class, with US investors having doubled their stakes in farmland since 2020.

Meanwhile, agricultural commodity traders are speculating on farmland through their own private equity subsidiaries, while new financial derivatives are allowing speculators to accrue land parcels and lease them back to struggling farmers, driving steep and sustained land price inflation.

Moreover, top-down 'green grabs' now account for 20 per cent of large-scale land deals. Government pledges for land-based carbon removals alone add up to almost 1.2 billion hectares, equivalent to total global cropland. Carbon offset markets are expected to quadruple in the next seven years.

These are some of the findings published in [the report](#) 'Land Squeeze' (May 2024) by the International Panel of Experts on Sustainable Food Systems (IPES), a non-profit thinktank headquartered in Brussels.

The report says that agricultural land is increasingly being turned into a financial asset at the expense of small- and medium-scale farming, leading to land price inflation. Furthermore, the COVID-19 event and the conflict in Ukraine helped promote the 'feed the world' panic narrative, prompting agribusiness and investors to secure land for export commodity production and urging governments to deregulate land markets and adopt pro-investor policies.

However, despite sky-rocketing food prices, there was, according to the [IPES in 2022](#), sufficient food and no risk of global food supply shortages. The increased food prices were due to speculation on food commodities, corporate profiteering and a heavy reliance on food imports. But the self-serving narrative pushed by big agribusiness and land investors prevailed.

At the same time, carbon and biodiversity offset markets are facilitating massive land transactions, bringing major polluters into land markets. The IPES notes that Shell has set aside more than \$450 million for carbon offsetting projects. Land is also being appropriated for biofuels and green energy production, including water-intensive 'green hydrogen' projects that pose risks to local food cultivation.

In addition, much-needed agricultural land is being repurposed for extractive industries and mega-developments. For example, urbanisation and mega-infrastructure developments in Asia and Africa are claiming prime farmland.

According to the IPES, between 2000 and 2030, [up to 3.3 million hectares](#) of the world's farmland will have been swallowed up by expanding megacities. Some [80 per cent of land loss](#) to urbanisation is occurring in Asia and Africa. [In India](#), 1.5 million hectares are estimated to have been lost to urban growth between 1955 and 1985, a further 800,000 hectares lost between 1985 and 2000, with steady ongoing losses to this day.

In a [December 2016 paper on urban land expansion](#), it was projected that by 2030, globally, urban areas will have tripled in size, expanding into cropland. Around 60 per cent of the world's cropland lies on the outskirts of cities, and this land is, on average, twice as productive as land elsewhere on the globe.

This means that, as cities expand, millions of small-scale farmers are being displaced. These farmers produce the [majority of food in lower income countries](#) and are key to global food security. In their place, as their land is concreted over, we are seeing the [aggregation of remaining agricultural land into](#) large-scale farms, land buy ups and further land investments and the spread of industrial agriculture and all it brings, including poor food and diets, illness, environmental devastation and the destruction of rural communities.

Investment funds have no real interest in farming or ensuring food security. They tend to invest for between only 10 and 15 years and can leave a trail of long-term environmental and social devastation and serve to undermine local and regional food security. Short- to medium-term returns on investments trump any notions of healthy food or human need.

The IPES notes that, globally, just 1 per cent of the world's largest farms now control 70 per cent of the world's farmland. These tend to be input-intensive, industrial-scale farms that are straining resources, rapidly degrading farmland and further squeezing out smallholders. Additionally, agribusiness giants are pursuing monopolistic practices that drive up costs for farmers. These dynamics are creating systematic economic precarity for farmers, effectively forcing them to 'get big or get out'.

Factor in land degradation, much of which is attributable to modern chemical-intensive farming practices, and we have a recipe for global food insecurity.

In India, more than 70 per cent of its arable land is affected by one or more forms of land degradation.

Also consider that the Indian government has sanctioned 50 solar parks, covering one million hectares in seven states. More than 74 per cent of solar is on land of agricultural (67 per cent) or natural ecosystem value (7 per cent), causing potential food security and biodiversity conflicts. The IPES report notes that since 2017 there have been more than 15 instances of conflict in India linked with these projects.

What is the impact of all this on farming and what might the future hold?

Nettie Wiebe, from the IPES, explains:

“Imagine trying to start a farm when 70 per cent of farmland is already controlled by just 1 per cent of the largest farms — and when land prices have risen for 20 years in a row, like in North America. That's the stark reality young farmers face today. Farmland is increasingly

owned not by farmers but by speculators, pension funds and big agribusinesses looking to cash in. Land prices have skyrocketed so high it's becoming impossible to make a living from farming. This is reaching a tipping point – small and medium scale farming is simply being squeezed out.”

Susan Chomba, also from the IPES, says that soaring land prices and land grabs are driving an unprecedented ‘land squeeze’, accelerating inequality and threatening food production. Moreover, the rush for [dubious carbon projects](#), tree planting schemes, clean fuels and speculative buying is displacing not only small-scale farmers but also indigenous peoples.

Huge swathes of farmland are being acquired by governments and corporations for these ‘green grabs’, despite little evidence of climate benefits. This issue is particularly affecting Latin America and sub-Saharan Africa. The IPES notes that some [25 million hectares](#) of land have been snapped up for carbon projects by a single ‘environmental asset creation’ firm, UAE-based ‘Blue Carbon’, through agreements with the governments of Kenya, Zimbabwe, Tanzania, Zambia and Liberia.

According to the IPES, the ‘land squeeze’ is leading to farmer revolts, rural exodus, rural poverty and food insecurity. With global farmland prices having doubled in 15 years, farmers, peasants, and indigenous peoples are losing their land (or forced to downsize), while young farmers face significant barriers in accessing land to farm.

The IPES calls for action to halt green grabs and remove speculative investment from land markets and establish integrated governance for land, environment and food systems to ensure a just transition. It also

calls for support for collective ownership of farms and innovative financing for farmers to access land and wants a new deal for farmers and rural areas, and that includes a new generation of land and agrarian reforms.

Capitalist imperative

Capital accumulation based on the financialisation of farmland accelerated after the 2008 financial crisis. However, financialisation of the economy in general goes back to the 1970s and 1980s when we witnessed a deceleration of economic growth based on industrial production. The response was to compensate via financial capitalism and financial intermediation.

Professor John Bellamy Foster, [writing in 2010](#), not long after the 2008 crisis, stated:

“Lacking an outlet in production, capital took refuge in speculation in debt-leveraged finance (a bewildering array of options, futures, derivatives, swaps etc.).”

The neoliberal agenda was the political expression of capital’s response to the stagnation and included the raiding and sacking of public budgets, the expansion of credit to consumers and governments to sustain spending and consumption and frenzied financial speculation.

With the engine of capital accumulation via production no longer firing on all cylinders, the emergency backup of financial expansion took over. We have seen a shift from real capital formation in many Western economies, which increases overall economic output, towards the appreciation of financial assets, which increases wealth claims but not output.

Farmland is being transformed from a resource supporting food production and rural stability to a financial asset and speculative commodity. An asset class where wealthy investors can park their capital to further profit from inflated asset prices.

The net-zero green agenda also has to be seen in this context: when capital struggles to make sufficient profit, productive wealth (capital) over accumulates and depreciates; to avoid crisis, constant growth and, in this case, the creation of fresh 'green' investment opportunities is required.

The IPES report notes that nearly 45 per cent of all farmland investments in 2018, worth roughly \$15 billion, came from pension funds and insurance companies. Based on workers' contributions, pension fund investments in farmland are promoting land speculation, industrial agriculture and the interests of big agribusiness at the expense of smallholder farmers. Workers' futures are tied to [pension funds, which are supporting](#) the growth and power of global finance and the degradation of other workers (in this case, cultivators).

Sofía Monsalve Suárez, from the IPES, states:

“It's time decision-makers stop shirking their responsibility and start to tackle rural decline. The financialisation and liberalisation of land markets is ruining livelihoods and threatening the right to food. Instead of opening the floodgates to speculative capital, governments need to take concrete steps to halt bogus 'green grabs' and invest in rural development, sustainable farming and community-led conservation.”

With pensions tied to an increasingly commodified food system, ordinary people have become deeply incorporated into a capitalist economy that requires private profit at the expense of public well-being. The links between big finance, the food system, illness and big pharma were described in *Sickening Profits: The Global Food System's Poisoned Food and Toxic Wealth*.

That book highlighted a cyclical relationship where financial institutions like BlackRock benefit from both their investments in the global food system and their investments in pharmaceuticals. At the same time, the relationship between ordinary people's pensions and investments and the commodification of farmland further illustrates a complex interplay between finance and agriculture.

Addressing these challenges requires a critical examination of how financial interests shape agricultural practices and a concerted effort towards more sustainable food systems that prioritise ecological integrity and community well-being over mere profitability.

Systems approach

Earlier in this chapter, it was stated that the influx of capital into farmland has further fuelled an industrial agricultural model characterised by monocultures, heavy reliance on chemical inputs and a focus on maximising yields at the expense of ecological balance and a systems approach. But what is a systems approach?

It involves understanding agriculture as part of a broader ecological and social system. It acknowledges that agricultural practices affect and are affected by environmental health, community well-being and economic viability.

However, industrial agriculture often overlooks these interconnections, leading to detrimental outcomes such as soil degradation, polluted waterways, loss of biodiversity, the destruction of rural communities, small-scale farms and local economies and negative health impacts. By contrast, a systems approach promotes agroecological principles that prioritise local food security, sustainable practices and the resilience of farming communities.

Agroecology serves as a primary framework within this systems approach. It integrates scientific research with traditional knowledge and grassroots participation, fostering practices that enhance ecological balance while ensuring farmers' livelihoods. This method encourages diverse cropping systems, natural pest management and sustainable resource use, which collectively contribute to more resilient agricultural ecosystems. Agroecology not only addresses immediate agricultural challenges but also engages with broader political and economic issues affecting food systems.

Moreover, a systems approach prioritises diverse nutrition production per acre, which contrasts sharply with conventional, reductionist agricultural models that focus predominantly on maximising yields of a single crop. Agroecological methods, which are foundational to this systems perspective, can lead to improved nutritional outcomes: by cultivating a wider variety of crops, farmers can enhance the nutritional quality of food produced on each acre, thereby addressing issues of malnutrition and food insecurity more effectively.

Localised food systems and the primacy of small farms are critical to a systems approach. By reducing dependency on global supply chains dominated by big finance and large agribusiness, localised systems can enhance food sovereignty and empower communities.

This shift not only mitigates vulnerability to global market fluctuations and supply chain crises but also fosters self-sufficiency and resilience against environmental changes. A systems approach thus advocates for policies that support smallholder farmers and promote sustainable practices tailored to local conditions. (For further insight into agroecology and its feasibility, successes and scaling up, there is an entire chapter on agroecology in *Food, Dependency and Dispossession: Resisting the New World Order*.)

Chapter IV

Digital Panopticon and the Future of Food

Throughout the world, from the Netherlands to India, farmers are protesting. The protests might appear to have little in common. But they do. Farmers are increasingly finding it difficult to make a living, whether, for instance, because of neoliberal trade policies that lead to the import of produce that undermines domestic production and undercuts prices, the withdrawal of state support or the implementation of net-zero emissions policies that set unrealistic targets.

The common thread is that, by one way or another, farming is deliberately being made impossible or financially non-viable. The aim is to drive most farmers off the land and ram through an agenda that by its very nature seems likely to produce shortages and undermine food security.

A '[one world agriculture](#)' global agenda is being promoted by the likes of the Gates Foundation and the World Economic Forum. It involves a vision of food and farming that sees companies such as Bayer, Corteva, Syngenta and Cargill working with Microsoft, Google and the big-tech giants to facilitate AI-driven farmerless farms, laboratory engineered 'food' and retail dominated by the likes of Amazon and Walmart. A cartel of data owners, proprietary input suppliers and e-commerce platforms at the commanding heights of the economy.

The agenda is the brainchild of a digital-corporate-financial complex that wants to transform and control all aspects of life and human behaviour. This complex forms part of an authoritarian global elite that has the ability to coordinate its agenda globally via the United Nations, the World Economic Forum, the World Trade Organization (WTO), the World Bank, the International Monetary Fund and other supranational organisations, including influential think tanks and foundations (Gates, Rockefeller etc.).

Its agenda for food and farming is euphemistically called a ‘food transition’. Big agribusiness and ‘philanthropic’ foundations position themselves as the saviours of humanity due to their much-promoted plans to ‘feed the world’ with high-tech ‘precision’ farming’, ‘data-driven’ agriculture and ‘green’ (net-zero) production — with a warped notion of ‘sustainability’ being the mantra.

A much talked about ‘food transition’ goes hand in hand with an energy transition, net-zero ideology, programmable central bank digital currencies, the censorship of free speech and clampdowns on protest.

Economic crisis

To properly understand these processes, we need to first locate what is essentially a social and economic reset within the context of a collapsing financial system.

Writer Ted Reece notes that the [general rate of profit](#) has trended downwards from an estimated 43 per cent in the 1870s to 17 per cent in the 2000s. By late 2019, many companies could not generate enough profit. Falling turnover, squeezed margins, limited cashflows and highly leveraged balance sheets were prevalent.

Professor [Fabio Vighi](#) of Cardiff University has described how closing down the global economy in early 2020 under the guise of fighting a supposedly new and novel pathogen allowed the US Federal Reserve to flood collapsing financial markets (COVID relief) with freshly printed money without causing hyperinflation. Lockdowns curtailed economic activity, thereby removing demand for the newly printed money (credit) in the physical economy and preventing ‘contagion’.

According to investigative journalist [Michael Byrant](#), €1.5 trillion was needed to deal with the crisis in Europe alone. The financial collapse staring European central bankers in the face came to a head in 2019. The appearance of a ‘novel virus’ provided a convenient cover story.

The European Central Bank agreed to a €1.31 trillion bailout of banks followed by the EU agreeing to a €750 billion recovery fund for European states and corporations. This package of long-term, ultra-cheap credit to hundreds of banks was sold to the public as a necessary programme to cushion the impact of the ‘pandemic’ on businesses and workers.

In response to a collapsing neoliberalism, we are now seeing the rollout of an authoritarian [great reset](#) — an agenda that intends to reshape the economy and change how we live.

Shift to authoritarianism

The new economy is to be dominated by a handful of tech giants, global conglomerates and e-commerce platforms, and new markets will also be created through the [financialisation of nature](#), which is to be colonised, commodified and traded under the notion of protecting the environment.

In recent years, we have witnessed an overaccumulation of capital, and the creation of such markets will provide fresh investment opportunities (including [dodgy](#) carbon offsetting Ponzi schemes) for the super-rich to park their wealth and prosper.

This great reset envisages a transformation of Western societies, resulting in permanent restrictions on fundamental liberties and mass surveillance. Being rolled out under the benign term of a 'Fourth Industrial Revolution', the World Economic Forum (WEF) says the public will eventually 'rent' everything they require (remember the WEF video 'you will own nothing and be happy?'): stripping the right of ownership under the guise of a 'green economy' and underpinned by the rhetoric of 'sustainable consumption' and 'climate emergency'.

Climate alarmism and the mantra of sustainability are about promoting money-making schemes.

But they also serve another purpose: social control.

Neoliberalism has run its course, resulting in the impoverishment of large sections of the population. But to dampen dissent and lower expectations, the levels of personal freedom we have been used to will not be tolerated. This means that the wider population will be subjected to the discipline of an emerging surveillance state.

To push back against any dissent, ordinary people are being told that they must sacrifice personal liberty in order to protect public health, societal security (those terrible Russians, Islamic extremists or that Sunak-designated bogeyman George Galloway) or the climate; in the case of the climate, this means, for instance, travelling less and eating synthetic 'meat'.

Unlike in the old normal of neoliberalism, an ideological shift is occurring whereby personal freedoms are increasingly depicted as being dangerous because they run counter to the collective good.

A main reason for this ideological shift is to ensure that the masses get used to lower living standards and accept them. Consider, for instance, the Bank of England's chief economist Huw Pill saying that people should '[accept being poorer](#)'. And then there is [Rob Kapito](#) of the world's biggest asset management firm BlackRock, who says that a "very entitled" generation must deal with scarcity for the first time in their lives.

At the same time, to muddy the waters, the message is that lower living standards are the result of the conflict in Ukraine and supply shocks that both the war and 'the virus' have caused.

The net-zero carbon emissions agenda will help legitimise lower living standards (reducing your carbon footprint) while reinforcing the notion that our rights must be sacrificed for the greater good. You will own nothing, not because the rich and their neoliberal agenda made you poor but because you will be instructed to stop being irresponsible and must act to protect the planet.

Net-zero agenda

But what of this shift towards net-zero greenhouse gas emissions and the plan to slash our carbon footprints? Is it even feasible or necessary?

Gordon Hughes, a former World Bank economist and current professor of economics at the University of Edinburgh, says in [a 2024 report](#) that current UK and European net-zero policies will likely lead to further economic ruin.

Apparently, the only viable way to raise the cash for sufficient new capital expenditure (on wind and solar infrastructure) would be a two decades-long reduction in private consumption of up to 10 per cent. Such a shock has never occurred in the last century outside war; even then, never for more than a decade.

But this agenda will also cause serious environmental degradation. So says Andrew Nikiforuk in the article [The Rising Chorus of Renewable Energy Skeptics](#), which outlines how the green techno-dream is vastly destructive.

He lists the devastating environmental impacts of an even more mineral-intensive system based on renewables and warns:

“The whole process of replacing a declining system with a more complex mining-based enterprise is now supposed to take place with a fragile banking system, dysfunctional democracies, broken supply chains, critical mineral shortages and hostile geopolitics.”

All of this assumes that global warming is real and anthropogenic. Not everyone agrees. In the article [Global warming and the confrontation between the West and the rest of the world](#), journalist Thierry Meyssan argues that net zero is based on political ideology rather than science. But to state such things has become heresy in the Western countries and shouted down with accusations of ‘climate science denial’.

Regardless of such concerns, the march towards net zero continues, and key to this is the United Nations Agenda 2030 for Sustainable Development Goals.

Today, almost every business or corporate report, website or brochure includes a multitude of references to ‘carbon footprints’,

‘sustainability’, ‘net zero’ or ‘climate neutrality’ and how a company or organisation intends to achieve its sustainability targets. Green profiling, green bonds and green investments go hand in hand with displaying ‘green’ credentials and ambitions wherever and whenever possible.

It seems anyone and everyone in business is planting their corporate flag on the summit of sustainability. Take Sainsbury’s, for instance. It is one of the ‘big six’ food retail supermarkets in the UK and has a vision for the [future of food](#) that it published in 2019 that dovetails with the so-called food transition and the interrelated net-zero agenda — you must change your eating habits and eat synthetic food to save the planet!

Here’s a quote from it:

“Personalised Optimisation is a trend that could see people chipped and connected like never before. A significant step on from wearable tech used today, the advent of personal microchips and neural laces has the potential to see all of our genetic, health and situational data recorded, stored and analysed by algorithms which could work out exactly what we need to support us at a particular time in our life. Retailers, such as Sainsbury’s could play a critical role to support this, arranging delivery of the needed food within thirty minutes — perhaps by drone.”

Tracked, traced and chipped — for your own benefit. Corporations accessing all of our personal data, right down to our DNA. The report is littered with references to sustainability and the climate or environment, and it is difficult not to get the impression that it is

written so as to leave the reader awestruck by the technological possibilities. We shall return to this report in the next chapter.

The report appears to be part of a paradigm that promotes a brave new world of technological innovation but has nothing to say about power — who determines policies that have led to massive inequalities, poverty, malnutrition, food insecurity and hunger and who is responsible for the degradation of the environment in the first place — is nothing new.

The essence of power is conveniently glossed over, not least because those involved in the prevailing food regime are also shaping the techno-utopian fairytale where everyone lives happily ever after eating synthetic food while living in a digital panopticon.

Fake green

The type of ‘green’ agenda being pushed is not just about social engineering and behavioural change; it is also a multi-trillion market opportunity for lining the pockets of rich investors and subsidy-sucking green infrastructure firms.

It is, furthermore, a type of green [that plans](#) to cover much of the countryside with wind farms and solar panels with most farmers no longer farming. A recipe for food insecurity.

Those investing in the ‘green’ agenda care first and foremost about profit. The [supremely influential](#) BlackRock is not only promoting this agenda; it also invests in the current food system and the corporations responsible for polluted waterways, degraded soils, the displacement of smallholder farmers, a spiralling public health crisis, malnutrition and much more.

It also invests in healthcare — an industry that thrives on the illnesses and conditions created by eating the substandard food that the current system produces.

Did Larry Fink, the top man at BlackRock, [suddenly develop a conscience](#) and become an environmentalist who cares about the planet and ordinary people? Of course not. He smells ever more profit in ‘climate-friendly’, ‘precision’ agriculture, genetic engineering and facilitating a new technocratic fake-green normal.

Any serious deliberations on the future of food would surely consider issues like food sovereignty, the role of agroecology and the strengthening of family farms — the backbone of current global food production.

The aforementioned article by Andrew Nikiforuk concludes that, if we are really serious about our impacts on the environment, we must scale back our needs and simplify society.

In terms of food, the solution rests on a low-input approach that strengthens rural communities and local markets and prioritises smallholder farms and small independent enterprises and retailers, localised democratic food systems and a concept of food sovereignty based on self-sufficiency, [agroecological principles](#) and [regenerative agriculture](#).

It would involve facilitating the right to culturally appropriate food that is nutritionally dense due to diverse cropping patterns and free from toxic chemicals while ensuring local ownership and stewardship of common resources like land, water, soil and seeds.

That’s where genuine environmentalism, ‘sustainability’, social justice and the future of food begins. But there’s no profit or role in that for

Fink or the big agribusiness and tech giants that despise such approaches.

Chapter V

Manifesto for Corporate Control and Technocratic Tyranny

Sainsbury's Future of Food report (2019), mentioned in the previous chapter, is not merely a misguided attempt at forecasting future trends and habits; it reads more like a manifesto for corporate control and technocratic tyranny disguised as 'progress'. This document epitomises everything wrong with the industrial food system's vision for our future. It represents a dystopian roadmap to a world where our most fundamental connection to nature and culture — our food — is hijacked by corporate interests and mediated through a maze of unnecessary and potentially harmful technologies.

The wild predictions and technological 'solutions' presented in the report reveal a profound disconnection from the lived experiences of ordinary people and the real challenges facing our food systems. Its claim (in 2019) that a quarter of Britons will be vegetarian by 2025 seems way off the mark. But it fits a narrative that seeks to reshape our diets and food culture. Once you convince the reader that things are going to be a certain way in the future, it is easier to pave the way for normalising what appears elsewhere in the report: lab-grown meat, 3D-printed foods and space farming.

Of course, the underlying assumption is that giant corporations — and supermarkets like Sainsbury's — will be controlling everything and

rolling out marvellous ‘innovations’ under the guise of ‘feeding the world’ or ‘saving the planet’. There is no concern expressed in the report about the consolidation of corporate-technocratic control over the food system.

By promoting high-tech solutions, the report seemingly advocates for a future where our food supply is entirely dependent on complex technologies controlled by a handful of corporations.

The report talks of ‘artisan factories’ run by robots. Is this meant to get ordinary people to buy into Sainsbury’s vision of the future? Possibly, if the intention is to further alienate people from their food sources, making them ever more dependent on corporate-controlled, ultra-processed products.

It's a future where the art of cooking, the joy of growing food and the cultural significance of traditional dishes are replaced by sterile, automated processes devoid of human touch and cultural meaning. This erosion of food culture and skills is not an unintended consequence — it's a core feature of the corporate food system's strategy to create a captive market of consumers unable to feed themselves without corporate intervention.

The report's enthusiasm for personalised nutrition driven by AI and biometric data is akin to an Orwellian scenario that would give corporations unprecedented control over our dietary choices, turning the most fundamental human need into a data-mined, algorithm-driven commodity.

The privacy implications are staggering, as is the potential for new forms of discrimination and social control based on eating habits. Imagine a world where your insurance premiums are tied to your

adherence to a corporate-prescribed diet or where your employment prospects are influenced by your 'Food ID'. The possible dystopian reality lurking behind Sainsbury's glossy predictions.

The report's fixation on exotic ingredients like jellyfish and lichen draws attention away from the real issues affecting our food systems — corporate concentration, environmental degradation and the systematic destruction of local food cultures and economies. It would be better to address the root causes of food insecurity and malnutrition, which are fundamentally issues of poverty and inequality, not a lack of novel food sources.

Nothing is mentioned about the vital role of agroecology, traditional farming knowledge and food sovereignty in creating truly sustainable and just food systems. Instead, what we see is a future where every aspect of our diet is mediated by technology and corporate interests, from gene-edited crops to synthetic biology-derived foods. A direct assault on the principles of food sovereignty, which assert the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods.

The report's emphasis on lab-grown meat and other high-tech protein sources is particularly troubling. These technologies, far from being the environmental saviours they are promoted as, risk increasing energy use and further centralising food production in the hands of a few tech giants.

The massive energy requirements for large-scale cultured meat production are conveniently glossed over, as are the potential health risks of consuming these novel foods without long-term safety studies. This push for synthetic foods is not about sustainability or animal

welfare — it's about creating new, patentable food sources that can be controlled and monetised by corporations.

Moreover, the push for synthetic foods and 'precision fermentation' threatens to destroy the livelihoods of millions of small farmers and pastoralists worldwide, replacing them with a handful of high-tech facilities controlled by multinational corporations.

Is this meant to be 'progress'?

It's more like a boardroom recipe for increased food insecurity, rural poverty and corporate monopolisation. The destruction of traditional farming communities and practices would not only be an economic disaster but a cultural catastrophe, erasing millennia of accumulated knowledge and wisdom about sustainable food production.

The report's casual mention of 'sin taxes' on meat signals a future where our dietary choices are increasingly policed and penalised by the state, likely at the behest of corporate interests.

The issue of meat

However, on the issue of the need to reduce meat consumption and replace meat with laboratory manufactured items in order to reduce carbon emissions, it must be stated that the dramatic increase in the amount of meat consumed post-1945 was not necessarily the result of consumer preference; it had more to do with political policy, the mechanisation of agriculture and Green Revolution practices.

That much was made clear by Laila Kassam, who, in her 2017 article [What's grain got to do with it? How the problem of surplus grain was solved by increasing 'meat' consumption in post-WWII US](#), asked:

“Have you ever wondered how ‘meat’ became such a central part of the Western diet? Or how the industrialisation of ‘animal agriculture’ came about? It might seem like the natural outcome of the ‘free market’ meeting demand for more ‘meat’. But from what I have learned from Nibert (2002) and Winders and Nibert (2004), the story of how ‘meat’ consumption increased so much in the post-World War II period is anything but natural. They argue it is largely due to a decision in the 1940s by the US government to deal with the problem of surplus grain by increasing the production of ‘meat’.”

Kassam notes:

“In the second half of the 20th century, global ‘meat’ production increased by nearly 5 times. The amount of ‘meat’ eaten per person doubled. By 2050 ‘meat’ consumption is estimated to increase by 160 percent ([The World Counts, 2017](#)). While [global per capita ‘meat’ consumption](#) is currently 43 kg/year, it is nearly double in the UK (82 kg/year) and almost triple in the US (118 kg/year).”

Kassam notes that habits and desires are manipulated by elite groups for their own interests. Propaganda, advertising and ‘public relations’ are used to manufacture demand for products. Agribusiness corporations and the state have used these techniques to encourage ‘meat’ consumption, leading to the slaughter and untold misery of billions of creatures, as Kassam makes clear.

People were manipulated to buy into ‘meat culture’. Now they are being manipulated to buy out, again by elite groups. But ‘sin taxes’ and Orwellian-type controls on individual behaviour are not the way to go about reducing meat consumption.

So, what is the answer?

Kassam says that one way to do this is to support grassroots organisations and movements which are working to resist the power of [global agribusiness](#) and reclaim our food systems. Movements for food justice and food sovereignty which promote sustainable, agroecological production systems.

At least then people will be free from corporate manipulation and better placed to make their own food choices.

As Kassam says:

“From what I have learned so far, our oppression of other animals is not just a result of individual choices. It is underpinned by a state supported economic system driven by profit.”

Misplaced priorities

Meanwhile, Sainsbury's vision of food production in space and on other planets is perhaps the most egregious example of misplaced priorities. While around a billion struggle with hunger and malnutrition and many more with micronutrient deficiencies, corporate futurists are fantasising about growing food on Mars.

Is this supposed to be visionary thinking?

It's a perfect encapsulation of the technocratic mindset that believes every problem can be solved with more technology, no matter how impractical or divorced from reality.

Moreover, by promoting a future dependent on complex, centralised technologies, we become increasingly vulnerable to system failures and corporate monopolies. A truly resilient food system should be decentralised, diverse and rooted in local knowledge and resources.

The report's emphasis on nutrient delivery through implants, patches and intravenous methods is particularly disturbing. This represents the ultimate commodification of nutrition, reducing food to mere fuel and stripping away all cultural, social and sensory aspects of eating. It's a vision that treats the human body as a machine to be optimised, rather than a living being with complex needs and experiences.

The idea of 'grow-your-own' ingredients for cultured meat and other synthetic foods at home is another example of how this technocratic vision co-opts and perverts concepts of self-sufficiency and local food production. Instead of encouraging people to grow real, whole foods, it proposes a dystopian parody of home food production that still keeps consumers dependent on corporate-supplied technologies and inputs. A clever marketing ploy to make synthetic foods seem more natural and acceptable.

The report's predictions about AI-driven personal nutrition advisors and highly customised diets based on individual 'Food IDs' raise serious privacy concerns and threaten to further medicalise our relationship with food. While personalised nutrition could offer some benefits, the level of data collection and analysis required for such systems could lead to unprecedented corporate control over our dietary choices.

Furthermore, the emphasis on 'artisan' factories run by robots completely misunderstands the nature of artisanal food production. True artisanal foods are the product of human skill, creativity and cultural knowledge passed down through generations. It's a perfect example of how the technocratic mindset reduces everything to mere processes that can be automated, ignoring the human and cultural elements that give food its true value.

The report's vision of meat 'assembled' on 3D printing belts is another disturbing example of the ultra-processed future being proposed. This approach to food production treats nutrition as a mere assembly of nutrients, ignoring the complex interactions between whole foods and the human body. It's a continuation of the reductionist thinking that has led to the current epidemic of diet-related diseases.

Sainsbury's is essentially advocating for a future where our diets are even further removed from natural, whole foods.

The concept of 'farms' cultivating plants to make growth serum for cells is yet another step towards the complete artificialisation of the food supply. This approach further distances food production from natural processes. It's a vision of farming that has more in common with pharmaceutical production than traditional agriculture, and it threatens to complete the transformation of food from a natural resource into an industrial product.

Sainsbury's apparent enthusiasm for gene-edited and synthetic biology-derived foods is also concerning. These technologies' rapid adoption without thorough long-term safety studies and public debate could lead to unforeseen health and environmental impacts. The history of agricultural biotechnology is rife with examples of unintended consequences, from the development of herbicide-resistant superweeds to the contamination of non-GM crops.

Is Sainsbury's uncritically promoting these technologies, disregarding the precautionary principle?

Issues like food insecurity, malnutrition and environmental degradation are not primarily technical problems — they are the result of inequitable distribution of resources, exploitative economic systems

and misguided policies. By framing these issues as purely technological challenges, Sainsbury's is diverting attention from the need for systemic change and social justice in the food system.

The high-tech solutions proposed are likely to be accessible only to the wealthy, at least initially, creating a two-tiered food system where the rich have access to 'optimized' nutrition while the poor are left with increasingly degraded and processed options.

But the report's apparent disregard for the cultural and social aspects of food is perhaps its most fundamental flaw. Food is not merely fuel for our bodies; it's a central part of our cultural identities, social relationships and connection to the natural world. By reducing food to a series of nutrients to be optimised and delivered in the most efficient manner possible, Sainsbury's is proposing a future that is not only less healthy but less human.

While Sainsbury's Future of Food report can be regarded as a roadmap to a better future, it is really a corporate wish list, representing a dangerous consolidation of power in the hands of agribusiness giants and tech companies at the expense of farmers, consumers and the environment.

The report is symptomatic of a wider ideology that seeks to legitimise total corporate control over our food supply. And the result? A homogenised, tech-driven dystopia.

A technocratic nightmare that gives no regard for implementing food systems that are truly democratic, ecologically sound and rooted in the needs and knowledge of local communities.

The real future of food lies not in corporate labs and AI algorithms, but in the fields of agroecological farmers, the kitchens of home cooks and the markets of local food producers.

The path forward is not through more technology and corporate control but through a return to the principles of agroecology, food sovereignty and cultural diversity.

Chapter VI

From Agrarianism to Transhumanism: Long March to Dystopia

“A total demolition of the previous forms of existence is underway: how one comes into the world, biological sex, education, relationships, the family, even the diet that is about to become synthetic.” — Silvia Guerini, radical ecologist, in [From the 'Neutral' Body to the Posthuman Cyborg](#) (2023)

We are currently seeing an acceleration of the corporate consolidation of the entire global agri-food chain. The big data conglomerates, including Amazon, Microsoft, Facebook and Google, [have joined traditional agribusiness giants](#), such as Corteva, Bayer, Cargill and Syngenta, in a quest to impose their model of food and agriculture on the world.

The Bill and Melinda Gates Foundation and big financial institutions, like BlackRock and Vanguard, are also involved, whether through [buying up huge tracts of farmland](#), pushing [biosynthetic \(fake\) food](#) and [genetic engineering technologies](#) or more generally [facilitating and financing the aims of the mega agri-food corporations](#).

The billionaire interests behind this try to portray their techno-solutionism as some kind of humanitarian endeavour: saving the

planet with ‘climate-friendly solutions’, ‘helping farmers’ or ‘feeding the world’. But what it really amounts to is repackaging and greenwashing the [dispossessive strategies of imperialism](#).

It involves a shift towards a ‘[one world agriculture](#)’ under the control of agritech and the data giants, which is to be based on genetically engineered seeds, laboratory created products that resemble food, ‘precision’ and ‘data-driven’ agriculture and farming without farmers, with the entire agrifood chain, from field (or lab) to retail, being governed by monopolistic e-commerce platforms determined by artificial intelligence systems and algorithms.

Those who are pushing this agenda have a vision not only for farmers but also for humanity in general.

The elites through their military-digital-financial (Pentagon/Silicon Valley/Big Finance) complex want to use their technologies to reshape the world and redefine what it means to be human. They regard humans, their cultures and their practices, like nature itself, as a problem and deficient.

Farmers are to be displaced and replaced with drones, machines and cloud-based computing. Food is to be redefined, and people are to be fed synthetic, genetically engineered products. Cultures are to be eradicated, and humanity is to be fully urbanised, subservient and disconnected from the natural world.

What it means to be human

What it means to be human is to be radically transformed. But what has it meant to be human until now or at least prior to the (relatively recent) Industrial Revolution and associated mass urbanisation?

To answer this question, we need to discuss our connection to nature and what most of humanity was involved in prior to industrialisation — cultivating food.

Many of the ancient rituals and celebrations of our forebears were built around stories, myths and rituals that helped them come to terms with some of the most fundamental issues of existence, from death to rebirth and fertility. These culturally embedded beliefs and practices served to sanctify people's practical relationship with nature and its role in sustaining human life.

As agriculture became key to human survival, the planting and harvesting of crops and other seasonal activities associated with food production were central to these customs.

Humans celebrated nature and the life it gave birth to. Ancient beliefs and rituals were imbued with hope and renewal and people had a necessary and immediate relationship with the sun, seeds, animals, wind, fire, soil and rain and the changing seasons that nourished and brought life. Our cultural and social relationships with agrarian production and associated deities had a sound practical base.

People's lives have been tied to planting, harvesting, seeds, soil and the seasons for thousands of years.

Silvia Guerini, whose quote introduces this chapter, notes the importance of deep-rooted relationships and the rituals that re-affirm them. She says that through rituals a community recognises itself and its place in the world. They create the spirit of a rooted community by contributing to rooting and making a single existence endure in a time, in a territory, in a community.

[Professor Robert W Nicholls](#) explains that the cults of Woden and Thor were superimposed on far older and better-rooted beliefs related to the sun and the earth, the crops and the animals and the rotation of the seasons between the light and warmth of summer and the cold and dark of winter.

Humanity's relationship with farming and food and our connections to land, nature and community has for millennia defined what it means to be human.

Take India, for example. Environmental scientist [Viva Kermani](#) says that Hinduism is the world's largest nature-based religion that:

“... recognises and seeks the Divine in nature and acknowledges everything as sacred. It views the earth as our Mother and hence advocates that it should not be exploited. A loss of this understanding that earth is our mother, or rather a deliberate ignorance of this, has resulted in the abuse and the exploitation of the earth and its resources.”

Kermani notes that ancient scriptures instructed people that the animals and plants found in India are sacred and, therefore, all aspects of nature are to be revered. She adds that this understanding of and reverence towards the environment is common to all Indic religious and spiritual systems: Hinduism, Buddhism and Jainism.

According to Kermani, the Vedic deities have deep symbolism and many layers of existence. One such association is with ecology. Surya is associated with the sun, the source of heat and light that nourishes everyone; Indra is associated with rain, crops, and abundance; and Agni is the deity of fire and transformation and controls all changes.

She notes that the Vrikshayurveda, an ancient Sanskrit text on the science of plants and trees, contains details about soil conservation, planting, sowing, treatment, propagating, how to deal with pests and diseases and a lot more.

Like Nicholls, Kermani provides insight into some of the profound cultural, philosophical and practical aspects of humanity's connection to nature and food production.

Agrarianism

This connection resonates with agrarianism, a philosophy based on cooperative labour and fellowship, which stands in stark contrast to the values and impacts of urban life, capitalism and technology that are too often detrimental to independence and dignity. Agrarianism, too, emphasises a spiritual dimension as well as the value of rural society, small farms, widespread property ownership and political decentralisation.

The poet and prominent proponent of agrarianism [Wendell Berry](#) [says](#):

“The revolution which began with machines and chemicals now continues with automation, computers and biotechnology.”

For Berry, agrarianism is not a sentimental longing for a time past. Colonial attitudes, domestic, foreign and now global, have resisted true agrarianism almost from the beginning — there has never been fully sustainable, stable, locally adapted, land-based economies.

However, Berry provides many examples of small (and larger) farms that have similar output as industrial agriculture with one third of the energy.

In his poem 'A Spiritual Journey', Berry writes the following:

“And the world cannot be discovered by a journey of miles,
no matter how long,
but only by a spiritual journey,
a journey of one inch,
very arduous and humbling and joyful,
by which we arrive at the ground at our feet,
and learn to be at home.”

Agrarianism, while advocating for a return to small-scale farming and community-oriented living, is often critiqued for its idealisation of rural life and agricultural work. Critics argue that it mistakenly elevates farming above other forms of labour, suggesting that agricultural work inherently fosters moral virtues and a closer relationship with nature.

It might appear to be naive, not least because, it overlooks the complexities and ethical dilemmas present in agrarian communities, which can be just as susceptible to corruption and environmental degradation as urban settings.

This raises the question: are solutions based on agrarianism utopian and disconnected from modern societal needs?

Not really. Agrarianism offers a necessary critique of industrial agriculture and the accelerated urbanisation we see across the world, emphasising the importance of local communities and sustainable practices. It promotes the idea that close relationships with the land can foster not only environmental stewardship but also social cohesion and moral integrity among community members.

By advocating for small-scale farming and local food systems, agrarianism seeks to empower individuals and families, encouraging self-sufficiency and resilience against the negative impacts of globalisation and corporate control in agriculture.

As a philosophy, agrarianism highlights the value of traditional knowledge and practices in addressing contemporary issues such as climate challenges, food security and social inequality. We shall return to Wendell Berry in the final chapter.

But in the cold, centralised, technocratic dystopia that is planned, humanity's spiritual connection to the countryside, food and agrarian production are to be cast into the dustbin of history. What we are seeing is an agenda based on a different set of values rooted in a lust for power and money and the total subjugation of ordinary people.

Transhumanism

Silvia Guerini says:

“The past becomes something to be erased in order to break the thread that binds us to a history, to a tradition, to a belonging, for the transition towards a new uprooted humanity, without past, without memory... a new humanity dehumanised in its essence, totally in the hands of the manipulators of reality and truth”.

This dehumanised humanity severed from the past is part of the wider agenda of transhumanism. For instance, we are not just seeing a push towards a world without farmers and everything that has connected us to the soil but, according to Guerini, also a world without mothers.

She argues that those behind test-tube babies and surrogate motherhood now have their sights on genetic engineering and

artificial wombs, which would cut women out of the reproductive process. Guerini predicts that artificial wombs could eventually be demanded, or rather marketed, as a right for everyone, including transgender people. It is interesting that the language around pregnancy is already contested with the omission of 'women' from statements like 'persons who can get pregnant'.

Of course, there has long been a [blurring of lines](#) between biotechnology, eugenics and genetic engineering. Genetically engineered crops, gene drives and gene editing are now a reality, but the ultimate goal is marrying artificial intelligence, bionanotechnology and genetic engineering to produce the one-world transhuman.

This is being pushed by powerful interests, who, according to Guerini, are using a rainbow, transgenic left and LGBTQ+ organisations to promote a new synthetic identity and claim to new rights. She says this is an attack on life, on nature, on "what is born, as opposed to artificial" and adds that all ties to the real, natural world must be severed.

It is interesting that in its report [Future of Food](#), the UK supermarket giant Sainsbury's celebrates a future where we are microchipped and tracked and neural laces have the potential to see all of our genetic, health and situational data recorded, stored and analysed by algorithms that could work out exactly what food (delivered by drone) we need to support us at a particular time in our life. All sold as 'personal optimisation'.

Moreover, it is likely, according to the report, that we will be getting key nutrients through implants. Part of these nutrients will come in the form of lab-grown food and insects.

A neural lace is an ultra-thin mesh that can be implanted in the skull, forming a collection of electrodes capable of monitoring brain function. It creates an interface between the brain and the machine.

Sainsbury's does a pretty good job of trying to promote a dystopian future where AI has taken your job, but, according to the report, you have lots of time to celebrate the wonderful, warped world of 'food culture' created by the supermarket and your digital overlords.

Technofeudalism meets transhumanism — all for your convenience, of course.

Imagine, as you sit all day unemployed in your high-rise, your 'food' will be delivered via an online platform bought courtesy of your programmable universal basic income digital money. Food courtesy of Gates-promoted farms manned by driverless machines, monitored by drones and doused with chemicals to produce crops from patented genetically modified seeds for industrial 'biomatter' to be engineered, processed and constituted into something resembling food.

Enjoy and be happy eating your fake food, stripped of satisfying productive endeavour and genuine self-fulfilment. But really, it will not be a problem. You can sit all day and exist virtually in Zuckerberg's fantasy metaverse. Property-less and happy in your open prison of state dependency, track and chip surveillance passports and financial exclusion via programmable currency.

A world also in which bodily integrity no longer exists courtesy of a mandatory vaccination agenda linked to emerging digital-biopharmaceutical technologies.

But none of this will happen overnight. And whether the technology will deliver remains to be seen. Those who are promoting this brave

new world might have overplayed their hand but will spend the following decades trying to drive their vision forward.

But arrogance is their Achilles heel.

There is still time to educate, to organise, to resist and to agitate against this hubris, not least by challenging the industrial food giants and the system that sustains them and by advocating for and creating grass-root food movements and local economies that strengthen food sovereignty.

Chapter VII

Platforms of Control and the Unbreakable Spirit

Max Weber (1864-1920) was a prominent German sociologist who developed influential theories on rationality and authority. He examined the different [types of rationality](#) that underpinned systems of authority. He argued that modern Western societies were based on legal-rational authority and had moved away from systems that were based on traditional authority and charismatic authority.

Traditional authority derives its power from long-standing customs and traditions, while charismatic authority is based on the exceptional personal qualities or charisma of a leader.

According to Weber, the legal-rational authority that characterises Western capitalist industrial society is based on instrumental rationality that focuses on the most efficient means to achieve given ends. This type of rationality manifests in bureaucratic power. Weber contrasted this with another form of rationality: value rationality that is based on conscious beliefs in the inherent value of certain behaviour.

While Weber saw the benefits of instrumental rationality in terms of increased efficiency, he feared that this could lead to a stifling “iron cage” of a rule-based order and rule following (instrumental

rationality) as an end in itself. The result would be humanity's "polar night of icy darkness."

Today, technological change is sweeping across the planet and presents many challenges. The danger is of a technological iron cage in the hands of an elite that uses technology for malevolent purposes.

[Lewis Coyne](#) of Exeter University says:

"We do not — or should not — want to become a society in which things of deeper significance are appreciated only for any instrumental value. The challenge, therefore, is to delimit instrumental rationality and the technologies that embody it by protecting that which we value *intrinsically*, above and beyond mere utility."

He adds that we must decide which technologies we are for, to what ends, and how they can be democratically managed, with a view to the kind of society we wish to be.

A major change that we have seen in recent years is the increasing dominance of cloud-based services and platforms. In the food and agriculture sector, we are seeing the rollout of these phenomena tied to a techno solutionist 'data-driven' or 'precision' agriculture legitimised by 'humanitarian' notions of 'helping farmers', 'saving the planet' and 'feeding the world' in the face of some kind of impending Malthusian catastrophe.

A part-fear mongering, part-self-aggrandisement narrative promoted by those who have fuelled ecological devastation, corporate dependency, land dispossession, food insecurity and farmer indebtedness as a result of the global food regime that they helped to create and profited from. Now, with a highly profitable but flawed carbon credit trading scheme and a greenwashed technology-driven

eco-modernism, they are supposedly going to save humanity from itself.

The world according to Bayer

In the agrifood sector, we are seeing the rollout of data-driven or precision approaches to agriculture by the likes of [Microsoft](#), [Syngenta](#), [Bayer](#) and [Amazon](#) centred on cloud-based data information services. Data-driven agriculture mines data to be exploited by the agribusiness/big tech giants to instruct farmers what and how much to produce and what type of proprietary inputs they must purchase and from whom.

Data owners (Microsoft, Amazon, Alphabet etc.), input suppliers (Bayer, Corteva, Syngenta, Cargill etc.) and retail concerns (Amazon, Walmart etc) aim to secure the commanding heights of the global agrifood economy through their monopolistic platforms.

But what does this model of agriculture look like in practice?

Let us use Bayer's digital platform Climate FieldView as an example. It collects data from satellites and sensors in fields and on tractors and then uses algorithms to advise farmers on their farming practices: when and what to plant, how much pesticide to spray, how much fertiliser to apply etc.

To be part of Bayer's Carbon Program, farmers have to be enrolled in FieldView. Bayer then uses the FieldView app to instruct farmers on the implementation of just two practices that are said to sequester carbon in the soils: reduced tillage or no-till farming and the planting of cover crops.

Through the app, the company monitors these two practices and estimates the amount of carbon that the participating farmers have sequestered. Farmers are then supposed to be paid according to Bayer's calculations, and Bayer uses that information to claim carbon credits and sell these in carbon markets.

Bayer also has a programme in the US called [ForGround](#). Upstream companies can use the platform to advertise and offer discounts for equipment, seeds and other inputs.

For example, getting more farmers to use reduced tillage or no-till is of huge benefit to Bayer (sold on the basis of it being 'climate friendly' as it keeps carbon in the soil). The kind of reduced tillage or no-till promoted by Bayer requires dousing fields with its RoundUp ([toxic glyphosate](#)) or some other toxic herbicide and planting seeds of its genetically engineered herbicide tolerant soybeans or hybrid maize.

And what of the cover crops referred to above? Bayer also intends to profit from the promotion of cover crops. It has taken majority ownership of a seed company developing a gene-edited cover crop, called [CoverCress](#). Seeds of CoverCress will be sold to farmers who are enrolled in ForGround and the crop will be sold as a biofuel.

But Bayer's big target is the downstream food companies which can use the platform to claim emissions reductions in their supply chains.

Agribusiness corporations and the big tech companies are jointly developing carbon farming platforms to influence farmers on their choice of inputs and farming practices (big tech companies, like Microsoft and IBM, are major buyers of carbon credits).

The non-profit GRAIN says (see the article [The corporate agenda behind carbon farming](#)) that Bayer is gaining increasing control over

farmers in various countries, dictating exactly how they farm and what inputs they use through its Carbon Program.

GRAIN argues that, for corporations, carbon farming is all about increasing their control within the food system and is certainly [not about sequestering carbon](#).

Digital platforms are intended to be one-stop shops for carbon credits, seeds, pesticides and fertilisers and agronomic advice, all supplied by the company, which gets the added benefit of control over the data harvested from the participating farms.

Techno-feudalism

Yanis Varoufakis, former finance minister of Greece, argues that what we are seeing is a shift from capitalism to techno-feudalism. He argues that tech giants like Apple, Meta and Amazon act as modern-day feudal lords. Users of digital platforms (such as companies or farmers) essentially become 'cloud serfs', and 'rent' (fees, data etc) is extracted from them for being on a platform.

In feudalism (land) rent drives the system. In capitalism, profits drive the system. Varoufakis says that markets are being replaced by algorithmic 'digital fiefdoms'.

Although digital platforms require some form of capitalist production, as companies like Amazon or Bayer need manufacturers or farmers to produce goods for their platforms, the new system represents a significant shift in power dynamics, favouring those who own and control the platforms.

Whether this system is technofeudalism, hypercapitalism or something else is open to debate. But we should at least be able to

agree on one thing: the changes we are seeing are having profound impacts on economies as well as producers and populations that are increasingly surveilled as they are compelled to shift their activities and lives online.

The very corporations that are responsible for the problems of the prevailing food system merely offer more of the same, this time packaged in an app-friendly, genetically engineered, ecomodernist, fake-green, carbon-trading wrapping.

Elected officials are facilitating this by putting the needs of monopolistic global interests ahead of ordinary people's personal freedoms and [workers' rights](#), as well as the needs of independent local producers, enterprises and markets.

For instance, the Indian government has in recent times signed memoranda of understanding (MoU) with Amazon, Bayer, Microsoft and Syngenta to rollout data-driven, precision agriculture. Integral to A standardised '[one world agriculture](#)' under the control of these companies based on genetically engineered seeds, laboratory created products that resemble food and farming without farmers, with the entire agrifood chain, from field (or lab) to retail in their hands.

In response, a 'citizen letter' (July 2024) was sent to the government. It stated that it is not clear what the [Indian Council of Agricultural Research \(ICAR\)](#) will learn from Bayer that the well-paid public sector scientists of the institution cannot develop themselves. The letter says entities that have been responsible for causing an economic and environmental crisis in Indian agriculture are being partnered by ICAR.

The letter raises some key concerns. Where is the democratic debate on carbon credit markets? Is the ICAR ensuring that the farmers get the best rather than biased advice that boosts the further rollout of proprietary products? Is there a system in place for the ICAR to develop research and education agendas from the farmers it is supposed to serve as opposed to being led by the whims and business ideas of corporations?

The authors of the letter note that copies of the MoUs are not being shared proactively in the public domain by the ICAR. The letter asks that the ICAR suspends the signed MoUs, shares all details in the public domain and desists from signing any more such MoUs without necessary public debate.

As will be made clear in the following chapters, this is part of a broader geopolitical strategy to ensure India's food dependence on foreign corporations and eradicate any semblance of food democracy (or indeed national sovereignty).

In a [October 2024 report](#), GRAIN.org sheds some light:

“Jayachandra Sharma, a farmer leader from India's Karnataka Rajya Ryot Sangha farmer union, sees these developments and the digitalisation of agriculture as part of a broader strategy to push millions of farmers out of agriculture and make India's food supply dependent on global finance and foreign corporations. Given how companies like Microsoft, Syngenta, Amazon and JD.com are expanding, he could well be right.”

Valuing humanity

[Genuine approaches](#) to addressing the challenges humanity faces are being ignored by policymakers or cynically attacked by corporate

lobbyists. These solutions involve systemic shifts in agricultural, food and economic systems with a focus on low-consumption (energy) lifestyles, localisation and an ecologically sustainable agroecology.

As activist [John Wilson](#) says, this is based on creative solutions, a connection to nature and the land, nurturing people, peaceful transformation and solidarity.

Co-operative labour, fellowship and our long-standing spiritual connection to the land should inform how as a society we should live. This stands in stark contrast to the values and impacts of capitalism and technology based on instrumental rationality and too often fuelled by revenue streams and the goal to control populations.

When we hear talk of a ‘spiritual connection’, what is meant by ‘spiritual’? In a broad sense it can be regarded as a concept that refers to thoughts, beliefs and feelings about the meaning of life, rather than just physical existence. A sense of connection to something greater than ourselves. Something akin to Weber’s concept of value rationality.

The spiritual, the diverse and the local are juxtaposed with the selfishness of modern urban society, the increasing homogeneity of thought and practice and an instrumental rationality which becomes an end in itself.

Having a direct link with nature/the land is fundamental to developing an appreciation of a type of ‘being’ and an ‘understanding’ that results in a reality worth living in.

However, what we are seeing is an agenda based on a different set of values rooted in a lust for power and money and the total subjugation of ordinary people (and farmers) being rammed through under the

false promise of techno solutionism (think neural laces to detect moods implanted in the skull, programmable digital money, track and trace technology etc.) and some distant notion of a techno utopia that leave malevolent power relations intact and unchallenged.

Is this then to be humanity's never-ending "polar night of icy darkness"? Hopefully not. This vision is being imposed from above. Ordinary people (whether, for example, farmers in India or those being beaten down through austerity policies) find themselves on the receiving end of a class war being waged against them by a mega rich elite.

Indeed, in 1941, [Herbert Marcuse stated](#) that technology could be used as an instrument for control and domination. Precisely the agenda of the likes of Bayer, the Gates Foundation, BlackRock and the World Bank, which are trying to eradicate genuine diversity and impose a one-size-fits-all model of thinking and behaviour.

A final thought courtesy of civil rights campaigner [Frederick Douglass](#) in a speech from 1857:

"Power concedes nothing without a demand. It never did and it never will. Find out just what any people will quietly submit to and you have found out the exact measure of injustice and wrong which will be imposed upon them, and these will continue till they are resisted with either words or blows, or with both. The limits of tyrants are prescribed by the endurance of those whom they oppress."

Chapter VIII

Ongoing Corporate Capture of Indian Agriculture

In October 2024, Indian journalist Bharat Dogra [noted the following trend in agriculture](#):

“Small farmers are being displaced and family farms are disappearing as those who are truly dedicated to farming have to say tearful farewells to their farms, while billionaires and richest corporations acquire millions of acres of farmland. While small scale food processors too are being pushed out and possibilities of direct contacts between farmers and consumers to promote sustainable livelihoods based on making available healthy food to all are diminishing, giant multinational companies are taking up food production, trade and processing in ways that are harmful for both consumers and farmers.”

It might be an inconvenient truth for big agribusiness, land investors and agritech concerns that prefer large-scale industrial agriculture, but [small-scale farmers and peasants feed most of the world](#). That means the types of farms Dogra refers to. What is more, [small farms are more productive than their larger counterparts, which is why they are essential for food security](#).

However, the trend noted by Dogra is apparent across the world. And it is something that, as yet, is still in the early stages in India. But have

no doubt, this is the plan for India too, where small-scale farmers make up 85 per cent of the farming community.

In late 2021, the Indian government announced that three important farm laws, which would have introduced neoliberal shock therapy to the agricultural sector, would be repealed after a one-year farmers' mobilisation against the legislation (although discussed below, for more in-depth insight into the issues that sparked the protest, see the relevant chapters in *Food, Dependency and Dispossession: Resisting the New World Order*).

The repeal of the three laws was little more than a tactical manoeuvre given that state elections were upcoming in key rural heartlands in 2022. The powerful global interests behind the legislation have not gone away and farmers' concerns remain highly relevant.

These interests have been behind a decades-long agenda to displace the prevailing agri-food system in India. The laws might have been struck down, but the goal to capture and radically restructure the sector remains. The farmers' struggle in India is not over.

The repeal of the controversial farm laws in India may have been seen as a victory for protesting farmers, but it seems the government is pursuing alternative strategies to achieve similar agricultural reforms. These new approaches, while less direct, could potentially implement many of the changes originally proposed in the repealed legislation.

The government seems to be gradually introducing smaller, incremental changes to agricultural policies that align with some of the original goals of the farm laws. For instance, an increased focus on digitalisation and technological solutions in agriculture could indirectly achieve some of the aims of the laws, and encouraging

private investment and partnerships in the agricultural sector through other means could still lead to increased corporatisation.

This chapter and the following three chapters will address this and will discuss the implications of a number of agreements between the Indian government and the likes of Amazon, Bayer and Syngenta that had little to no democratic oversight.

But we will begin by looking at the claim that the BJP-led government was seeking to extract revenge for the humiliating defeat it suffered at the hands of the farmers. This claim was made during a press conference that took place in Delhi in October 2023 held by the Samyukta Kisan Morcha (SKM) (United Farmers Front).

The SKM was formed in November 2020 as a coalition of more than 40 Indian farmers' unions to coordinate non-violent resistance against the three farm acts initiated two months before.

Asserting that the laws violated the constitution and were anti-farmer and pro big business, the SKM announced renewed agitation and expressed grave concern about a crackdown by the government against the online media platform NewsClick, which supported the farmers throughout their one-year struggle.

Those present heard that there has been “baseless dishonest and false allegations in the NewsClick FIR against the historic farmers’ struggle” and that the “FIR accuses the farmers’ movement as anti-national, funded by foreign and terrorist forces.”

An FIR is a ‘first information report’: a document prepared by police in India when they receive information about the commission of a “cognisable” (serious) offence.

Delhi Police issued an FIR against NewsClick founder Prabir Purkayastha and the human resources head Amit Chakravarty, which infers that the farmers' movement was aimed at stopping the supply of essential goods for citizens and creating law and order issues.

An article on The Hindu newspaper's Frontline portal describes the nature of the FIR, which goes far beyond the farmers' issue, and concludes police actions along with the FIR marks a major low point for media freedom in India.

[According to Frontline](#), the police raids on the offices of NewsClick and the residences of virtually anyone associated with it; the indiscriminate seizure of the electronic devices of journalists and other employees; the sealing of the news portal's main office; the arrest of its founder-editor and its administrative officer on terrorism-related charges; and the searches conducted at the premises of NewsClick and the home of its founder-editor mark the lowest point for media freedom in India since the Emergency of 1975-1977.

The withdrawal of the FIR against NewsClick was called for during the press conference. There was also a demand for the immediate release of NewsClick journalists.

The SKM said that farmers across the country would burn copies of the FIR on 6 November 2023 after a sustained campaign at village level against the government's pro-corporate policies from 1-5 November.

The farmers' coalition also pledged to campaign in five poll-going states with the slogan "Oppose Corporate, Punish BJP, Save Country."

It was also announced that a 72-hour sit-in would take place in front of the Raj Bhawans (official residences of state governors) in state capitals between 26 and 28 November.

On November 13, 2024, the Supreme Court of India declared Purkayastha's arrest and subsequent remand as invalid, emphasising that he and his legal counsel were not provided with the grounds for his arrest prior to his remand hearing. The court criticised the police for circumventing due process and noted that the lack of communication regarding the grounds of arrest severely hindered Purkayastha's ability to defend himself. The Supreme Court's ruling mandated his release upon fulfilling bail bond requirements set by the trial court. The case highlights ongoing concerns regarding press freedom in India, particularly in relation to government actions against journalists and media outlets perceived as critical of state policies.

The SKM stated that the farmers' movement was committed and patriotic and saw through the "nefarious plan" of the three farm laws to withdraw government support from agriculture and hand over farming, mandis (state-run wholesale agricultural markets) and public food distribution to corporations led by Adani, Ambani, Tata, Cargill, Pepsi, Walmart, Bayer, Amazon and others.

It added that the farmers exposed the corporate-backed plan of depriving the people of India of food security, pauperising farmers, changing cropping patterns to suit corporations and allowing the free penetration of foreign corporations into India's food processing market.

Those in attendance also heard about the hardships experienced by farmers during the one-year agitation:

“In the process, the farmers braved water cannons, teargas shelling, roadblocks with huge containers, deep road cuts, lathi charge, cold and hot weather. Over 13 months, they sacrificed 732 martyrs... This was a patriotic movement of the highest quality in the face of repression by a fascist government serving interests of Imperialist exploiters.”

State investment in agriculture infrastructure was called for, along with the promotion of profitable farming, the facilitation and securing of modern food processing, marketing and consumer networks under the collective ownership and control of peasant-worker cooperatives.

Accusing the government of acting on behalf of corporate interests, one speaker said that it had targeted Newsclick because it only did what a genuine news media should have been doing — reporting on the truth, the problems of farmers and the nature of the struggle.

It was claimed that:

“The BJP Government is using the farcical FIR to spread a canard that the farmers’ movement was anti-people, anti-national and backed by terrorist funding routed through Newsclick. This is factually wrong and mischievously inserted to portray the movement in bad light and seeking to extract revenge for the humiliating defeat they suffered at the hands of the farmers of our country.”

The farmers’ coalition argued that the government is moving to falsely charge the farmers movement of being foreign funded and sponsored by terrorist forces, while it is “promoting FDI, Foreign MNCs, big corporations into agriculture.”

The coalition said it remains committed to saving the rural economy, preventing foreign looting and rejuvenating the village economy in order to build a strong India.

In 2024, farmers were still protesting. Facilitation of the neoliberal corporatisation of farming that sparked the previous protest remains on the board and farmers' demands have not been met.

Background

The World Bank, the WTO, global agribusiness and financial capital [are working to corporatise](#) India's agriculture sector. This plan goes back to the early 1990s and India's foreign exchange crisis, which was used (and manipulated) to set this plan in motion. This debt-trap 'structural adjustment' policy and process involves displacing the current food production system with contract farming and an industrial model of agriculture and food retail that serves the above interests.

The aim is to reduce the role of the public sector in agriculture to a facilitator of private capital, which requires industrial commodity-crop farming. The beneficiaries will include Cargill, Archer Daniels Midlands, Louis Dreyfus, Bunge and India's retail and agribusiness giants as well as the global agritech, seed and agrochemical corporations and the big tech companies with their 'data-driven agriculture'.

The plan is to displace the peasantry, create a land market and amalgamate landholdings to form larger farms that are more suited to international land investors and industrial farming. As a result, there has been an ongoing strategy to make farming non-viable for many of India's smallholder farmers and *force* hundreds of millions out of

farming and into urban centres that have already sprawled to form peri-urban areas, which often tend to contain the most agriculturally fertile land. The loss of such land should be a concern in itself.

It is not as though farmers want to leave farming. It tends to be in their blood. But if they are unable to cover the costs of production and make a decent living due to the lack of guaranteed prices and the issues laid out below, they will flock to the cities to try to gain a foothold in urban economies.

And what will those hundreds of millions do? Driven to the cities because of deliberate impoverishment, they will serve as cheap labour or, more likely, an unemployed or underemployed reserve army of labour for global capital — labour which is being replaced with automation. They will be in search of jobs that are increasingly hard to come by (World Bank reports that there is [more than 23 per cent youth unemployment in India](#)).

The impoverishment of farmers results from rising input costs, the withdrawal of government assistance, debt and debt repayments and the impacts of cheap, subsidised imports, which depress farmers' incomes.

While corporations in India receive [massive handouts and have loans written off](#), the lack of a secure income, exposure to volatile and manipulated international market prices and cheap imports contribute to farmers' misery of not being able to cover the costs of production and secure a decent standard of living.

The pressure from the richer nations for the Indian government to further reduce support given to farmers and open up to imports and export-oriented 'free market' trade is based on nothing but hypocrisy.

For instance, policy analyst [Devinder Sharma comments](#) that subsidies provided to US wheat and rice farmers are more than the market worth of these two crops. He also notes that, per day, each cow in Europe receives a subsidy worth more than an Indian farmer's daily income.

The World Bank, the WTO, global institutional investors and transnational agribusiness giants require corporate-dictated contract farming and full-scale neoliberal marketisation for the sale and procurement of produce. They demand that India sacrifice its farmers and its own food security for the benefit of a handful of billionaires.

Farmers are merely regarded as producers of raw materials (crops) to be fleeced by suppliers of chemical and biotech inputs and the food processing and retail conglomerates. The more farmers can be squeezed, the greater the profits these corporations can extract. This entails creating farmer dependency on costly external inputs and corporate-dominated markets and supply chains. Global agrifood corporations have cleverly and cynically weaved a narrative that equates eradicating food sovereignty and creating dependency with 'food security'.

Farmers' demands

In 2018, a charter was released by the All India Kisan Sangharsh Coordination Committee (an umbrella group of around 250 farmers' organisations). The farmers were concerned about the deepening penetration of predatory corporations and the unbearable burden of indebtedness and the widening disparities between farmers and other sectors.

They wanted the government to take measures to bring down the input costs of farming, while making purchases of farm produce below the minimum support price (MSP) both illegal and punishable.

The charter also called for a special discussion on the universalisation of the public distribution system (PDS), the withdrawal of pesticides that have been banned elsewhere and the non-approval of genetically engineered seeds without a comprehensive need and impact assessment.

Other demands included no foreign direct investment in agriculture and food processing, the protection of farmers from corporate plunder in the name of contract farming, investment in farmers' collectives to create farmer producer organisations and peasant cooperatives and the promotion of agroecology based on suitable cropping patterns and local seed diversity revival.

These demands remain relevant today due to government inaction. In fact, the three farm laws that were repealed aimed to do precisely the opposite. They were intended to expose Indian agriculture to a massive dose of neoliberal marketisation and shock therapy. Although the laws were struck down, the corporate interests behind them never went away and are adamant that the Indian government implements the policies they require.

This would mean India reducing the state procurement and distribution of essential foodstuffs and eradicating its food buffer stocks — so vital to national food security — and purchasing the nation's needs with its foreign exchange reserves on manipulated global commodity markets. This would make the country wholly

dependent on attracting foreign investment and international finance.

To ensure food sovereignty and national food security, the Mumbai-based [Research Unit for Political Economy](#) (RUPE) says that MSPs, through government procurement of essential crops and commodities, should be extended to many major crops such as maize, cotton, oilseed and pulses. At the moment, only farmers in certain states who produce rice and wheat are the main beneficiaries of government procurement at the MSP.

Since per capita protein consumption in India is abysmally low and has fallen further during the liberalisation era, the provision of pulses in the PDS is long overdue and desperately needed. The PDS works with central government, via the Food Corporation of India, being responsible for buying food grains from farmers at MSPs at state-run market yards or mandis. It then allocates the grains to each state. State governments then deliver to 'ration shops'.

In 2024, farm union leaders were still seeking guarantees for a minimum purchase price for crops. Although the government announces support prices for more than 20 crops each year, government agencies buy only rice and wheat at the support level and, even then, in only some states.

State agencies buy the two staples at government-fixed minimum support prices to build reserves to run the world's biggest food welfare programme that entitles more than 800 million Indians to free rice and wheat. Currently, that's more than half the population who per household will receive five kilos per month of these essential

foodstuffs for at least the next four years, which would be denied to them by the ‘free market’.

As we have seen throughout the world, corporate plunder under the guise of neoliberal marketisation is no friend of the poor and those in need who rely on state support to exist.

If public procurement of a wider range of crops at the MSP were to occur — and MSPs were guaranteed for rice and wheat across all states — it would help address hunger and malnutrition, encourage crop diversification and ease farmer distress. By helping hundreds of millions involved in farming this way, it would give a massive boost to rural spending power and the economy in general.

Instead of rolling back the role of the public sector and surrendering the system to what constitutes a transnational billionaire class and its corporations, there is a need to further expand official procurement and public distribution.

The RUPE notes, it would cost around 20 per cent of the current handouts (‘incentives’) received by corporations and their super-rich owners, which do not benefit the bulk of the wider population in any way. It is also worth considering that the loans provided to just [five large corporations](#) in India were in 2016 equal to the entire farm debt.

However, it is clear that the existence of the MSP, the public distribution system and publicly held buffer stocks are an impediment to global agribusiness interests.

In the meantime, the current administration is keen to demonstrate to international finance capital and agricapital that it is being tough on

farmers and remains steadfast in its willingness to facilitate the pro-corporate agenda.

In 2024, after the breakdown in talks between government and farmers' representatives, the farmers decided to peacefully march to and demonstrate in Delhi. But at the Delhi border, farmers were met with barricades, tear gas and state violence.

However, to date, current farmers' resistance lacks the momentum of the 2020-21 protests. Furthermore, by one means or another, as the following chapters indicate, the central government continues to ignore the key demands of farmers and hand over the sector to global agribusiness and other corporate interests

Farmers produce humanities' most essential need and are not the 'enemy within'. The spotlight should fall on the 'enemy beyond'. Instead of depicting farmers as 'anti-national', as sections of the media and prominent commentators in India try to, the focus needs to be on challenging those interests that seek to gain from undermining India's food security and sovereignty and the impoverishment of farmers.

Chapter IX

Amazon Gets Fresh, Bayer Loves Basmati

The citizens of India have a problem. In what the media like to call ‘the world’s biggest democracy’, there is a serious, proven conflict of interest among officials in the areas of science, agriculture and agricultural research that results in privileging the needs of powerful private interests ahead of farmers and ordinary people.

This has been a longstanding concern. In 2013, for instance, prominent campaigner and environmentalist [Aruna Rodrigues](#) said:

“The Ministry of Agriculture has handed Monsanto and the industry access to our agri-research public institutions, placing them in a position to seriously influence agri-policy in India. You cannot have a conflict of interest larger or more alarming than this one.”

In 2020, Kavitha Kuruganti (Alliance for Sustainable and Holistic Agriculture) [stated that](#) the Genetic Engineering Appraisal Committee had acted more like a servant for Monsanto: there is an ongoing revolving door between crop developers (even patent holders) and regulators, with developers-cum-lobbyists sitting on regulatory bodies.

However, the capture of public policymaking space by the private sector is set to accelerate due to a recent spate of memorandums of understanding between state institutions and influential private corporations involved in agriculture and agricultural services, including Bayer and Amazon.

Corporate capture

As part of a Memorandum of Understanding (MoU) between the [Indian Council of Agricultural Research \(ICAR\) and Amazon](#) (June 2023), farmers will produce for Amazon Fresh stores in India as part of a ‘farm to fork’ supply chain. It will see “critical inputs” in agriculture and “season-based crop plans” in collaboration with Amazon based on “technologies, capacity building and transfer of new knowledge.”

This corporate jargon ties in with the much-publicised notion of ‘data-driven agriculture’ centred on cloud-based data information services (which Amazon also offers). In this model, data is to be accessed and controlled by corporates and the farmer will be told how much production is expected, how much rain is anticipated, what type of soil quality there is, what must be produced and what type of genetically engineered seeds and inputs they must purchase and from whom.

This amounts to a [recolonisation of Indian agriculture](#), which will eventually involve a handful of data owners (Microsoft, Amazon etc.), input suppliers (Bayer, Corteva, Syngenta etc.) and retail concerns (Amazon and Walmart-Flipkart — both firms already control 60 per cent of India’s e-commerce market) at the heights of the agrifood economy, determining the nature of agriculture and peddling industrial food. Farmers who remain in this AI-driven system (a stated aim is farmerless farms) will be reduced to exploitable labour at the mercy of global conglomerates.

This is part of a broader strategy to shift hundreds of millions out of agriculture, ensure India’s food dependence on global finance and

foreign corporations and eradicate any semblance of food democracy (or national sovereignty).

In addition to the MoU with Amazon, an MoU was signed between the ICAR and Bayer in September 2023. Bayer (it bought Monsanto in 2018), which profits from various [environmentally harmful](#) and [disease-causing](#) chemicals like glyphosate, signed the MoU to help “develop resource-efficient, climate-resilient solutions for crops, varieties, crop protection, weed and mechanization”, according to the ICAR website.

The ICAR is responsible for co-ordinating agricultural education and research in India, and Bayer seems likely to exploit the ICAR’s vast infrastructure and networks to pursue its own commercial plans, including boosting sales of toxic proprietary products.

But that’s not all. According to the non-profit GRAIN in its article ‘[The corporate agenda behind carbon farming](#)’, Bayer is gaining increasing control over farmers in various countries, dictating exactly how they farm and what inputs they use through its Carbon Program.

GRAIN says:

“You can see in the evolution of Bayer’s programmes that, for corporations, carbon farming is all about increasing their control within the food system. It’s certainly [not about sequestering carbon](#).”

Given the seriousness of what is laid out by GRAIN in its article, India’s citizens and farmers should take heed, especially as the ICAR website states that a focus of the MoU with Bayer will be on developing carbon credit markets.

In a [letter \(July 2004\)](#) to Rabindra Padaria, principal scientist at the Indian Agricultural Research Institute (IARI), and Himanshu Pathak, director-general of the ICAR, Aruna Rodrigues says:

“Inking in ICAR’s formal partnership with Bayer (Monsanto) quite simply confirms straightforwardly that the ICAR protects its interest, which is the same as those of Bayer-Monsanto, large chemical/herbicide corporates... the ICAR has ditched its mandate to Indian farmers and farming, which is to promote farmer interests as a priority in an unbiased and objective assessment of what is right and good for Indian farming and food... “

A separate [citizens’ letter](#) was also sent to Pathak on the various MoUs that the Indian government has signed with influential private corporations. Hundreds of scientists, farmer leaders, farmers and ordinary citizens signed the letter.

It states:

“Bayer is a company notorious for its anti-people, anti-nature business products and operations in itself and, furthermore, after its takeover of Monsanto. Its deadly poisons have violated basic human rights of peoples across the world, and it is a company that has always prioritised profits over people and planet.”

It goes on to say that it is not clear what the ICAR will learn from Bayer that the well-paid public sector scientists of the institution cannot develop themselves. The letter says entities that have been responsible for causing an economic and environmental crisis in Indian agriculture are being partnered by ICAR for so-called solutions when these entities are only interested in their profits and not sustainability (or any other nomenclature they use).

The letter asks that the ICAR suspends the signed MoUs, shares all details in the public domain and desists from signing any more such MoUs without necessary public debate.

However, on 19 July 2024, there were reports that the ICAR had signed another MoU, this time with Syngenta for promoting climate resilient agriculture and training programmes. In response, the authors of the letter state that the ICAR has (again) partnered with a corporation that has a track record of anti-nature and anti-people activities, selling toxic products like paraquat, class action suits against its corn seeds and anti-competitive behaviour.

Mutagenic HT rice

It is becoming clear who the ICAR actually serves. Let us return to Aruna Rodrigues and her letter to Rabindra Padaria (IARI) and Himanshu Pathak (ICAR) for additional insight.

Rodrigues' letter focuses on the commercial cultivation of basmati rice varieties tolerant to imazethapyr-based, non-selective herbicides. These chemicals can be liberally sprayed on herbicide tolerant (HT) crops because the crops have been manipulated to withstand the toxic impacts of spraying.

The HT varieties of rice have undergone some form of mutagenesis rather than genetic engineering. Mutagenesis has traditionally involved subjecting plant cells to chemical or physical agents (for example, radiation) that cause mutations to the DNA in the hope that a resulting mutation may produce a desirable effect in the plant. This kind of mutation breeding has been used for decades but only affects a [minority](#) of the plants on the market. Industry [watchdog](#)

[GMWatch](#) says this risky technology (mutagenesis breeding) in the past managed to escape regulation.

So, this HT crop by the mutagenesis route is not defined as ‘genetic engineering’ (the method usually used to create HT crops) and therefore falls outside the purview of current regulations on genetically modified organisms.

Although the Supreme Court-appointed Technical Expert Committee (TEC) bars HT crops (a) for being an HT crop and (b) on account of contamination of crops in a centre of genetic diversity, it has been a long-standing aim of biotech companies like Bayer (Monsanto) to get HT crops cultivated in India.

Rodrigues asks:

“Is it a deliberate decision of the ICAR to use the mutagenesis route to produce HT rice varieties (tolerant to imazethapyr) with the explicit objective to bypass the formal regulation of GE crops/GMOs?”

Rodrigues accuses the ICAR of effectively ditching its mandate to Indian farmers, many of whom regard organic farming as their competitive advantage. This step is also a potential threat to India’s export markets, which are based on organic standards, along with the necessary co-surety that India’s foods and farms are not contaminated by herbicides, a consequence of using HT crops.

By adding a trait for herbicide tolerance, the ICAR is informed:

“ICAR’s action directly impacts this vital issue of contaminating our germ plasm in rice and contravenes a Supreme Court Order of “No Contamination”. Furthermore, our export markets for basmati are in excess of US \$5 billion in 2023-24. Your action will also directly

impact India's exports and thereby, impact farmer export potential, incomes and income opportunities that premium prices provide.”

Moreover, Rodrigues asserts that the entire mutagenesis process for HT rice must be elaborated, especially when the mutant variety is for the purpose of human consumption.

The ICAR is duty-bound to provide, for example, whether a physical or a chemical mutagen was used, the range of doses used and the toxicity for the said material, the herbicide(s) used (a key concern, given the effects of certain herbicides on human health — see below) to test the HT of the basmati rice being used, the concentrations of the herbicides used and the genetic mechanism by which HT rice through mutagenesis has a resistant gene to imazethapyr.

While the issue of intellectual property rights for the HT rice varieties using mutagenesis is unclear, the ICAR and IARI have executed a technology transfer agreement of the HT trait for commercial cultivation.

Failed technology

In her letter, Rodrigues states that, based on empirical evidence of 35 years of HT crops in the US and Argentina, HT crops are a failed technology: it spawns super weeds, increased herbicide use and no added performance yield. Moreover, for India, HT crops are a perverse use of technology, whether genetic engineering or through mutagenesis, that risks small and marginal farmers' crops and herbs and plants used in many Ayurvedic medicines because of herbicide drift. It will also uniquely impact the employment of women in weeding.

Rodrigues goes on to state (with evidence provided) that in the US overall herbicide use has increased more than tenfold since the introduction of HT Crops (1992-2012 figure). In addition, HT crops are designed for monocultures and completely unsuited to Indian small-holder, multi-crop farming: anything not HT will be destroyed, the resistant crop stands, but everything else dies, including non-target organisms.

The herbicides used with HT crops are also a major human health issue. There is a strong link between glyphosate and non-Hodgkin's lymphoma. In relation to this, there are more than 100,000 lawsuits winding their way through US Courts.

Glyphosate (used in Bayer's Roundup herbicide) is also an endocrine disruptor and is linked to birth defects. Monsanto and the US Environmental Protection Agency had both known for over 40 years that glyphosate and its formulations cause cancer.

Other herbicides used by Bayer include glufosinate (used in its Liberty herbicide), which is acknowledged as more toxic than glyphosate and, like it, is a systemic, broad spectrum, non-selective herbicide. It is a neurotoxin that can cause nerve damage and birth defects and is damaging to most plants that come into contact with it.

Glufosinate is banned in Europe and not permitted in India. It has been implicated in brain developmental abnormalities in animal studies and is very persistent in the environment, so it will certainly contaminate water supplies in addition to food where it will be absorbed.

Imazethapyr (contained in Bayer's Aduie herbicide) is also a systemic broad-spectrum herbicide and is banned in some countries and not approved for use in the EU.

Prof. Jack Heinemann (University of Canterbury in New Zealand) adds that the likes of imazethapyr must be tested for their ability to cause bacterial antibiotic resistance. An important concern given that India's population has some of the highest levels of antibiotic resistance in the world. Any spread of HT crops would put people at severe risk of resistance and disease.

Despite these environmental and health concerns, the herbicide market in India is projected to grow by [around 54 per cent](#) in the next five years, from USD 361.85 million in 2024 to USD 558.17 million by 2029.

Rodrigues concludes:

“In view of the above evidence of serious irreversible harm to health, food and agriculture across several dimensions and contravention of the PP (Precautionary Principle), it is a required scientific response for the ICAR to immediately withdraw HT rice varieties and desist from introducing any HT crop through mutagenesis.”

Chapter X

From Monsanto to Bayer: Worst of Both Worlds

Environmentalist and campaigner Rosemary Mason has been [relentlessly exposing](#) the insidious effects of agrochemicals on human health and the environment through a decade-long series of incisive reports. Many of these reports have taken the form of scathing open letters directed at corporations, regulators and officials in the UK and the EU.

Mason has never held back in her condemnations of the agrochemical giants. After Bayer's acquisition of Monsanto in 2018, her focus sharpened on Bayer, scrutinising its troubling history and its actions, not least during one of humanity's darkest chapters: Nazi Germany.

Bayer's complicity as part of IG Farben, a chemical and pharmaceutical conglomerate notorious for its involvement in war crimes, is well documented. The company was formed in 1925 from a merger of six chemical firms: Agfa, BASF, Bayer, Chemische Fabrik Griesheim-Elektron, Hoechst and Weiler-ter-Meer.

Bayer was not merely an observer but an active participant in heinous medical experiments conducted on concentration camp inmates. These experiments involved testing drugs on unwilling subjects,

including those at Auschwitz, where prisoners were deliberately infected with diseases to evaluate Bayer's pharmaceuticals.

During World War I, Bayer was involved in the development of chemical weapons, including chlorine and mustard gas. As part of IG Farben, Bayer later contributed to the creation of nerve agents like Tabun, Sarin and Soman. Post-war, Bayer transitioned these chemical developments into pesticides such as parathion, which are neurotoxic.

In addition, IG Farben was implicated in the production of Zyklon B, the gas used in concentration camps. Executives from IG Farben were convicted for their roles in war crimes at the Nuremberg Trials.

Bayer's leadership was fully aware of these atrocities yet chose profit over ethics, benefiting from the forced labour of concentration camp inmates to produce essential chemicals for the Nazi war machine.

The aftermath of World War II saw Bayer and other IG Farben companies face minimal repercussions for their actions. While some executives were tried, they received light sentences or were released early, allowing them to reclaim positions of power within their companies.

As for Bayer, things did not stop with the end of the war.

The [Powerbase](#) website provides a very long list of Bayer's corporate wrongdoings since 1945, including allegations of corporate bullying, monopolistic practices, the suppression of scientific information, bribery, poisonings, false advertising and abusing workers.

More recently, Bayer has inherited a legacy of deception through its acquisition of Monsanto. Both companies have been accused of concealing the health risks associated with glyphosate, the active ingredient in Roundup and the world's most used agricultural

herbicide. Internal documents reveal a concerted effort to downplay glyphosate's carcinogenicity while ignoring substantial evidence indicating its dangers to human health.

In her numerous reports, Mason has indicated how Bayer shaped regulatory processes to secure product approvals, influencing scientific studies and regulatory decisions while suppressing contrary evidence. The environmental devastation wrought by pesticides is alarming: Mason cites significant declines in biodiversity and poisoned ecosystems that she claims are as a direct consequence of the widespread use of Bayer's chemicals.

Moreover, rising cancer rates in communities exposed to Bayer's products cannot be ignored, especially increasing cases of non-Hodgkin lymphoma linked to glyphosate use in areas heavily treated with these chemicals.

Rosemary Mason is not alone in her condemnation of Bayer. For instance, journalist Carey Gillam has written extensively about Bayer-Monsanto's practices, particularly in relation to glyphosate and its health impacts in the book 'Whitewash: The Story of a Weed Killer, Cancer, and the Corruption of Science'.

[Gillam says:](#)

“US Roundup litigation began in 2015 after the International Agency for Research on Cancer classified glyphosate as a probable human carcinogen. Internal Monsanto documents dating back decades show that the company was aware of scientific research linking its weed killer to cancer but instead of warning consumers, the company worked to suppress the information and manipulate scientific literature.”

Hit lists and lobbying

Gillam has shown that, over the years, Monsanto mounted a deceitful defence of its health- and environment-damaging Roundup and its genetically modified crops, and it orchestrated toxic smear campaigns against anyone — scientist or campaigner — who threatened its interests.

With that in mind, it comes as no surprise that a US-Based PR firm has created a watchlist, profiling activists, scientists and journalists who are critical of pesticide use and genetically modified organisms, as recently revealed in documents obtained by the investigative newsroom [Lighthouse Reports](#).

As a result of a year-long investigation, Lighthouse Reports argues that this operation seeks to cast pesticide critics, environmental scientists or campaigners as an anti-science “protest industry” and used US government money to do so.

The watchlist is the brainchild of Jay Byrne, a former communications executive at Monsanto, and his reputation management firm v-Fluence. It comprises profiles (including personal information) on hundreds of scientists, campaigners and writers. These profiles have been published on a private social network, which grants privileged access to 1,000 people comprising a who’s-who of the agrochemical industry, alongside government officials from multiple countries.

The US government funded v-Fluence as part of its programme to promote genetically modified organisms in Africa and Asia, including “enhanced monitoring” of critics of “modern agriculture approaches” — and to build the network.

Watchlists and hitlists aside, to further its interests, the agrochemical giants pour huge resources into lobbying that seeks to shape narratives, deceive and coerce rather than engage with genuine public health and environmental concerns.

The research and campaign group Corporate Europe Observatory (CEO) recently took a [deep dive](#) into Bayer's disturbing "toxic trail" of lobbying as the company strives to maintain its huge slice of the seed and pesticides markets, fight off regulatory challenges to its toxic products, limit legal liability and exercise political influence.

CEO's report 'Bayer's Toxic Trails: Market Power, Monopolies and the Global Lobbying of an Agrochemicals Giant' notes that Bayer spent between €7 million and €8 million in 2023 on EU lobbying, the biggest sum declared by any individual chemical company and the highest amount ever spent by Bayer on EU lobbying.

According to CEO, Bayer's current top lobbying priority in Europe is to derail the original ambitions of the European Green Deal and to prevent any of the company's firmly established interests (chemicals and pesticides) from being touched. One of the central goals of this deal is to reduce the use and risk of chemical pesticides by 50 per cent by 2030 through the EU's Farm to Fork strategy. This target aims to address both environmental and public health concerns associated with pesticide use in agriculture.

Bayer's lobby spend in the US has also risen considerably over the past few years, spending \$7.5 million in 2023 alone, some of which is aimed at securing changes in the law to prevent further litigation cases and more hefty payouts to people suffering from conditions due to glyphosate exposure. To date, the company has [reportedly paid](#)

out approximately \$11 billion to settle nearly 100,000 lawsuits stemming from claims that Roundup causes cancer, particularly non-Hodgkin lymphoma.

CEO states:

“Bayer’s lobby tactics continue to capture public policymaking and in doing so hollow out democracy. A perverse symbiosis between corporate lobby groups and decision-makers has been actively created through its economic weight and large investments in many corners of the world, and this consistently leads to crucial decisions being made in favour of industry profits, rather than public interest.”

It concludes that:

“Around the world, Bayer’s modus operandi is not to work in the public interest but rather to capture public policy to serve its private interests and dividends of its shareholders, all while ignoring the public health and environmental impact of its activities.”

Be careful what you wish for

So, why would a government want to do a deal with the devil?

As stated in the previous chapter, that is precisely what the government of India seems to have done when it signed a memorandum of understanding (MoU) with Bayer in September 2023. Bayer signed the MoU with the Indian Council for Agricultural Research (ICAR), which is responsible for co-ordinating agricultural education and research in India.

Bayer’s aim first and foremost seems to be to exploit the ICAR’s vast infrastructure and networks to pursue its own commercial plans, including boosting sales of toxic proprietary products and the

introduction of genetically modified food crops into India. These crops would be reliant on Bayer's agrochemicals.

Attempts to get genetically modified food crops into India's fields is being done by all means necessary, as explained in Aruna Rodrigues insightful online article [Waltzing with Bayer Makes The Indian Council of Agricultural Research Blind: India Ditches Mandate to Farmers and Uses Mutagenesis to Drive Toxic HT Crops Into India.](#)

That article explains that mutagenetic techniques are being used to bypass existing regulatory procedures in relation to genetically modified organisms, despite a recent Supreme Court directive for the government to formulate a national policy framework on genetically modified crops based on a democratic consultative process.

Telangana State Seed Development Corporation chairman S Anvesh Reddy recently [stated](#) that farmers want a bio-safety policy and not a promotional policy for genetically modified crops.

However, they are in danger of getting the latter. Prominent campaigner Kavitha Kuruganti has warned that the Ministry of Agriculture may bypass the democratic consultative processes recommended by the Supreme Court. It has already appointed a panel of 'experts' to draft the policy and information about it is being kept secret.

On X (formerly Twitter), agricultural policy specialist Devinder Sharma stated:

“How can a policy be framed for GM crops when there is still no consensus on the need for these crops? Despite heavy lobbying by industry, most countries oppose it.”

How can this be?

Let us turn to Aruna Rodrigues:

“Our regulatory bodies have been captured by the biotech and agrichemical industries... It is breathtaking; all pretence is gone. We have a cancer that is metastasising vertically and horizontally throughout the entire regulatory body.”

The need for genetically modified food crops is based on unsound logic, and, in general, neither farmers nor the public want them (see the online article [Challenging the Flawed Premise Behind Pushing GMOs into Indian Agriculture](#)). Moreover, the failure of Bt cotton in the country, India’s only officially approved genetically modified crop (see [The Failure of GMO Cotton In India on resilience.org](#)), should serve as a warning.

In the meantime, farmers’ leaders from 18 states in India have [resolved to oppose genetically modified crops](#). They say genetically modified organisms in agriculture are harmful to human and animal health, the environment, farmers’ livelihoods and trade and are based on failed promises.

Chapter XI

Bayer's 'Backward' Claim:

Bid for Control of Indian Agriculture

For some critics, if one firm tops a league table for [anti-people, anti-nature](#) business practices, it is Bayer (although there are many other worthy candidates). Nevertheless, as previously stated, the Indian Council for Agricultural Research (ICAR) signed a memorandum of understanding with Bayer in September 2023.

Bayer's approach to agricultural development involves promoting a model of industrial agriculture dependent on corporate products, including its toxic chemicals and genetically modified crops, and advocating for precision, data-driven agriculture that relies heavily on its proprietary technologies and software.

Simon Wiebusch, Country Divisional Head of Crop Science for Bayer South Asia, [recently stated](#) that India cannot become a 'developed nation' with 'backward' agriculture. He believes India's agriculture sector must modernise for the country to achieve developed nation status by 2047.

Bayer's vision for agriculture in India includes prioritising and fast-tracking approvals for its new products, introducing genetically modified food crops, addressing labour shortages (for weeding) by

increasingly focusing on herbicides and developing herbicides for specific crops like paddy, wheat, sugarcane and maize.

Government institutions like the ICAR seem likely to allow Bayer to leverage the agency's infrastructure and networks to pursue its commercial plans.

Wiebusch's comments have received much media coverage. There is a tendency for journalists and media outlets to accept statements made by people in top corporate jobs as pearls of wisdom never to be critically questioned, especially in India when there is talk of the country achieving the gold standard in the eyes of some: 'developed status'. But people like Wiebusch are hardly objective. They are not soothsayers who have an unbiased view of the world and its future.

Bayer has a view of what agriculture [should look like](#) and is gaining increasing control of farmers in various countries in terms of having a direct influence on how they farm and what inputs they use. Its digital platforms are intended to be one-stop shops for carbon credits, seeds, pesticides and fertilisers and agronomic advice, all supplied by the company, which gets the added benefit of control over the agronomic and financial data harvested from farms.

As for carbon credits, [the non-profit GRAIN](#) argues that, like digital platforms per se, carbon trading is about consolidating control within the food system and is certainly [not about sequestering carbon](#).

So, what does Wiebusch mean when he talks about modernisation of a backward agriculture in India? All of what is set out above and more.

Like Wiebusch, corporate lobbyists often refer to 'modern agriculture'. Instead, we should really be advocating for a system that produces healthy food for all while sustaining farming communities and

livelihoods. That's because the term 'modern agriculture' is deliberately deceptive: it means a system dependent on proprietary inputs and integrated with corporate global supply chains. Anything other is defined as 'backward'.

According to Bayer, Wiebusch is a star player who can drive market share and create business value for the company. On the [Bayer India](#) website it says: "Simon's key strengths include unlocking business growth, redefining distribution strategies, driving change management and building diverse teams that drive market share and create business value."

Stripped of the corporate jargon and any talk of 'helping' India, the goal is to secure control of the sector and ensure corporate dependency. That is what is really meant by creating business value and driving market share.

India has achieved self-sufficiency in food grains and has ensured there is enough food (in terms of calories) available to feed its entire population. It is [the world's largest producer of](#) milk, pulses and millets and the second-largest producer of rice, wheat, sugarcane, groundnuts, vegetables, fruit and cotton.

In 2014, environmental scientist Viva Kermani [stated](#) that India has been self-sufficient in food staples for over a decade and more than that for cereals. She noted that the country:

"... grows about 100 million tons (mt) of rice, 95 mt of wheat, 170 mt of vegetables, 85 mt of fruit, 40 mt of coarse cereals and 18 mt of pulses (refer to the Economic Survey for the data). These totals ensure that our farmers grow enough to feed all Indians well with food

staples. We have 66 mt of grain, two-and-a-half times the required buffer stock (on January 1, 2013).”

She concluded:

“The country has reached this stage through, first and foremost, the knowledge and skill of our farmers who have bred and saved seed themselves and exchanged their seed in ways that made our fields so biodiverse.”

Kermani also observed that farmers have legitimate claims to being scientists, innovators, natural resource stewards, seed savers and hybridisation experts. However, they have too often been reduced to becoming recipients of technical fixes and consumers of the poisonous products of a growing agricultural inputs industry.

Who needs Bayer?

It is clear that Bayer needs India for its corporate growth strategy, but who needs Bayer?

Bhaskar Save certainly did not on his impressively bountiful organic farm in Gujarat. In 2006, he described in an [eight-page open letter](#) (along with six annexures) to M S Swaminathan (widely regarded as the father of the Green Revolution in India) how the type of chemical-intensive agriculture that Bayer promotes and the urban-centric model of development favoured by the government has had devastating environmental economic and social consequences for India.

Save offered agroecological alternatives to address the problems, including solutions to boost farmer incomes and rural communities, cultivate a wider range of nutrient-dense crops, build soil fertility,

improve water management, enhance on-farm ecology and increase biodiversity.

The prominent environmentalist Vandana Shiva recently posted on X:

“India’s agriculture was sustained over 10,000 years because it was based on nature’s laws of diversity, recycling, regeneration & circularity. Albert Howard spread organic farming worldwide learning from Indian peasants. Working with nature is sophistication, not backwardness.

“Bayer calling India’s agriculture backward is a new toxic colonisation. Bayer/Monsanto, the poison cartel whose roots are in war, has driven biodiversity to extinction with monocultures, spread cancers with glyphosate & herbicides, destroyed democracy.”

It seems that the ‘poor’ must be helped out of their awful ‘backwardness’ by the West and its powerful corporations and billionaire ‘philanthropists’ like Bill Gates. What some might regard as ‘backward’ stems from an ethnocentric ideology, which is used to legitimise the destruction of communities and economies that were once locally based and self-sufficient.

Bayer promotes a corporate expansionist ‘development’ agenda that is self-sustaining and can be described as anything but development (see the online article [Resisting Genetically Mutilated Food and the Eco-Modern Nightmare](#)).

Companies like Bayer present their technologies and products as fixes for the problems created by the model of ‘growth’ and ‘development’ they promote. ‘Scientific innovation’ is touted as the answer. The proposed solutions often create new problems or worsen existing ones.

This leads to a cycle of dependency on corporate products and technologies. Monsanto's [failed](#) Bt cotton in India being a case in point.

Problems created by corporate-led development become opportunities for further corporate inputs and the commodification of knowledge and further 'expert' interventions. The primary motivation is financial gain rather than genuine societal improvement.

Corporate-driven 'development' is a misnomer, especially in agriculture, as it often leads to regression in terms of health, environmental sustainability and rural community resilience, while perpetuating a cycle of problems and 'solutions' that primarily benefit large corporations.

But the type of agroecological solutions presented by the likes of Bhaskar Save run counter to Bayer's aims of more pesticides, more genetically modified organisms, more control and corporate consolidation. For example, as previously mentioned, the industry seeks to derail the EU's farm to fork strategy (which involves a dramatic reduction in agrochemical use), and Bayer spends [record amounts](#) to shape policies to its advantage, courtesy of its entrenched lobbying networks.

Of course, Bayer presents its neocolonial aspirations in terms of helping backward Indian farmers. A good old dose of Western saviourism.

To promote its model, Bayer must appear to offer practical solutions. It uses the narrative of climate emergency to promote a Ponzi carbon trading scheme that is resulting in [land displacement](#) across the world. And Bayer says that labour shortages for manual weeding in Indian

agriculture are a significant challenge, so the rollout of toxic herbicides like glyphosate are a necessity.

But there are several approaches to address this issue beyond relying on herbicides like glyphosate (it will kill all plants that do not have the herbicide tolerant trait), which is wholly unsuitable for a nation comprising so many small farms cultivating a diverse range of crops.

Mechanical weeding using animal-drawn or tractor-powered implements for larger farms is one solution, and there are several agronomic techniques that can help suppress weeds and reduce labour needs: crop rotation disrupts weed lifecycles, higher planting densities shade out weeds, proper fertilisation gives crops a competitive advantage and use of cover crops and mulches can suppress weed growth.

Even here, however, there are cynical attempts to get farmers to change their cultivation methods (with no tangible financial benefits) and move away from traditional systems.

In the article [The Ox Fall Down: Path Breaking and Treadmills in Indian Cotton Agriculture](#), for instance, we see farmers being nudged away from traditional planting methods and pushed towards a method inconducive to oxen ploughing but very conducive for herbicide-dependent weed management. That article notes the huge growth potential for herbicides in India, something companies like Bayer are keen to capitalise on.

Wiebusch talks of India reaching 'developed status'. But what does the type of 'development' he proposes entail?

We need only look around us for the answer: decision-making centralised in the hands of government and corporate entities,

traditional local governance structures weakened and standardised, top-down policies and corporate consolidation through mergers and acquisitions with local independent enterprises struggling to compete.

Consolidated corporations have greater lobbying power to shape regulations in their favour, further entrenching their market position. In other words, political centralisation and corporate consolidation are often intertwined. Centralised political structures tend to align with the interests of large, consolidated corporations, and both centralised governments and large corporations exert greater control over resources.

This dual process has led to reduced economic diversity and resilience, weakened local communities and traditions, increased vulnerability to systemic shocks and diminished democratic participation.

‘Developed status’ also means accelerated urbanisation, land amalgamations for industrial-scale farming and depopulation of the countryside. And it means farmers being encouraged to grow cash crops for export based on trade policies that work in favour of big landowners and heavily subsidised Western agriculture.

As mentioned earlier, it has been estimated that between 2016 and 2030, globally, [urban areas will have tripled in size](#), expanding into cropland and undermining the productivity of agricultural systems. Around 60 per cent of the world’s cropland lies on the outskirts of cities. This land is, on average, twice as productive as land elsewhere on the globe.

As cities expand, millions of small-scale farmers are displaced. These farmers produce the [majority of food in the Global South](#) and are key to global food security.

A combination of urbanisation and policies [deliberately designed](#) to displace the food-producing peasantry will serve to boost the corporate takeover of India's agrifood sector. This is what Bayer calls 'development'.

But none of this is inevitable. Many of us know what the response should be: prioritising sustainable, locally appropriate solutions and restoring food sovereignty and the economic vibrancy of rural communities; focusing on holistic human well-being rather than narrow economic metrics of 'growth'; preserving traditional knowledge that underpins highly productive [farming practices](#) for the benefit of farmers, consumer health and the environment; and empowering communities through localism and decentralisation rather than creating state-corporate dependency.

Such solutions are markedly different from those characterised by rural population displacement, the subjugation of peoples and nature, nutrient-poor diets, degraded on-farm and off-farm ecosystems and corporate consolidation.

There are [alternative visions](#) for the future, alternative visions of human development. But these do not boost corporate margins or control and do not fit the hegemonic narrative of what passes for 'development'.

However, it is concerning that what Bayer advocates is regarded as the common sense of the age.

The ultimate coup d'état by the transnational agribusiness conglomerates is that state officials, scientists and journalists take as given that profit-driven Fortune 500 corporations have a legitimate claim to be custodians of natural assets. These corporations have convinced so many that they have the ultimate legitimacy to own, control and manage what is essentially humanity's commonwealth.

Water, food, soil, land and agriculture have been handed over to powerful transnational corporations to milk for profit as though they are serving the needs of humanity. Corporations which promote industrial agriculture have embedded themselves deeply within the policy-making machinery on both national and international levels.

The ultimate intertwining of political centralisation and corporate consolidation.

Chapter XII

You Are Still the Enemy Within

It should be clear by now that the issues raised in this book transcend a narrow analysis of the food system. There has been much discussion about social control, technocracy and even transhumanism. And this chapter is no different.

It is essential to explore broader power dynamics in order to gain a clearer understanding of the global food regime and the corporations and interests behind it.

Power is increasingly concentrated in the hands of an elite that wields its considerable wealth, influence and technological advancements to dominate both resources and populations, profoundly shaping the fabric of our lives.

In recent years, we have seen the nudging (manipulating) of populations to accept a 'new normal' based on, among other things, a climate emergency narrative, pandemic preparedness tyranny, unaccountable AI, synthetic 'food' and farmerless farms.

Whether it involves a 'food transition', an 'energy transition', 15-minute cities or some other benign-sounding term, all this is to be determined by a supranational state-corporate 'stakeholder' elite with ordinary people sidelined in the process. An undemocratic agenda designed to place restrictions on individual liberty, marking a dramatic shift towards authoritarianism.

In the 1980s, to help legitimise the deregulation-privatisation neoliberal globalisation agenda, government and media instigated an ideological onslaught on populations, driving home the primacy of ‘free enterprise’, individual rights and responsibility and emphasising a shift away from the role of the state, trade unions and the collective in society.

We are currently seeing another ideological shift: individual rights and freedoms are said to undermine the wider needs of society and the planet; in a stark turnaround, personal freedom is now said to pose a threat to national security, public health or the climate.

As in the 1980s, this messaging is being driven by an economic impulse. This time, the collapsing neoliberal project.

In the UK, [poverty is increasing](#), food banks are now a necessary part of [life for millions](#). Indeed, the poorest families are [enduring a ‘frightening’ collapse in living standards](#), resulting in life-changing and life-limiting poverty.

In the US, it was reported in 2023 that around [30 million](#) low-income people are on the edge of a ‘hunger cliff’ as a portion of their federal food assistance is taken away.

In 2021, it was estimated that [one in eight](#) children were going hungry in the US. In April 2023, it was reported that [small businesses were filing for bankruptcy in the US at a record rate](#).

The Bank of England’s chief economist, Huw Pill, says that people should ‘[accept being poorer](#)’. This is similar to [the response of Rob Kapito](#), co-founder of the world’s biggest asset management firm, BlackRock. In 2022, the unimaginably rich and entitled Kapito said that a “very entitled” generation of (ordinary working) people who

have never had to sacrifice would soon have to face shortages for the first time in their lives.

While business as usual prevails in Kapito's world of privilege and that of major [arms](#), [energy](#), [pharmaceuticals](#) and [food](#) companies, whose megarich owners continue to rake in massive profits, Kapito and Pill tell ordinary people to get used to poverty and the 'new normal' as if we are 'all in it together' — billionaires and working class alike. They conveniently used COVID and the situation in Ukraine as cover for the collapsing neoliberalism.

Hegemony and censorship

But this is part of the hegemonic agenda that seeks to ensure that the establishment's world view is the accepted cultural norm. And anyone who challenges this world view — whether it involves, for instance, questioning climate alarmism, the 'new normal', the nature of the economic crisis, the mainstream COVID narrative or the official stance on Ukraine and Russia — is regarded as a spreader of misinformation and the 'enemy within'.

If we turn to New Zealand, we could see this in action during and after the COVID event. The country's former prime minister Jacinda Ardern grabbed the global limelight a few years ago, making headlines by stating she wanted to put 'kindness' into politics. In 2019, Foreign Policy, a publication closely associated with the Atlantic Council and the US State Department, published the article '[The Kindness Quotient](#)', a glowing promotion of Ardern.

The strategic marketing of Ardern in various publications focused on her likeability, pro-environment stance, compassionate values and

collaborative nature. To further appeal to liberal sentiments, she was said to represent everything Trump is not.

Ardern belongs to a set of global leaders who were groomed for their positions through the World Economic Forum (WEF) [Young Global Leaders Programme](#). Yes, that WEF — the elitist organisation where hard-nose billionaires and their handmaidens gather to set out policies aligned with powerful business interests.

The charm offensive that Ardern's promoters undertook was an investment. She delivered on COVID by implementing lockdowns and restrictions without question.

Arden stated in her speech to the UN in September 2022:

“As leaders, we are rightly concerned that even the most light-touch approaches to disinformation could be misinterpreted as hostile to values of free speech that we value so highly.”

She went on to say:

“How do you tackle climate change if people believe it does not exist? How do you ensure the human rights of others are upheld as they are subjected to hateful and dangerous ideology.”

She continued by saying free speech (that the authorities disagree with) can be a weapon of war.

During COVID, [Ardern urged citizens](#) to trust the government and its agencies for all information and stated:

“Otherwise, dismiss anything else. We will continue to be your single source of truth.”

Throughout that period, in the US, Fauci presented himself as ‘the science’. In New Zealand, Ardern’s government was ‘the truth’. It was similar in countries across the world. Different figures but the same approach.

When anyone in power or any institution lays claim to ‘the truth’, history shows we are on a slippery slope to silencing thought and dissent that we disagree with.

Like other political leaders, during COVID, Ardern clamped down on civil liberties with the full force of state violence on hand to ensure compliance with ‘the truth’.

Clearly, Ardern was not alone here. Trudeau, the Biden administration and others have continued to display Orwellian undertones as they spoke of the need to challenge ‘misinformation’ and those who question ‘the truth’. The thin end of a very wide authoritarian wedge.

It seems, especially post-COVID, critical analysis and open debate are fine as long as those involved keep within the framework of what is deemed supportive of official narratives.

We are often urged to ‘trust the science’ and accept that the ‘science is decided’ on various issues. We heard this on the COVID issue, when we were told governments are ‘following the science’, while they and the big tech companies censored world-renowned scientists and opposing views and opinions. In ‘following the science’, conflicts of interest were rife and notions of objectivity, open disclosure and organised scepticism — core values of scientific endeavour — were trampled on.

Those who questioned the COVID narrative were smeared, shut down and censored, the playbook of big agribusiness — manipulating

science, smearing critics, derailing policies that threaten its interests and claiming that ‘the science is decided’ on genetically modified organisms – and authoritarian governments.

Is anyone who questions and wants a more open debate on climate change or whether such change is occurring as stated or will lead to ‘extinction’ to be charged with disseminating misinformation?

Is questioning the orthodoxy of the zero-carbon policy agenda to be shut down and those who challenge it to be labelled ‘extremists’.

Ardern asked: “How do you tackle climate change if people believe it does not exist?”

But it is also pertinent to ask: How do you tackle it if you accept it exists?

Even if we accept humanity is in trouble and facing a genuine climate emergency, people should at least be able to question the current ‘green’ agenda based on a ‘stakeholder capitalism’ strategy (governments and others facilitating the needs of private capital) that has co-opted genuine concerns about the environment to pursue new multi-billion-dollar global investment opportunities (described in the 2020 report [Nature for Sale](#) by Friends of the Earth).

If you read that report, you might conclude that we are witnessing a type of green imperialism that is using genuine concerns about the environment to pursue a familiar agenda of extractivism, colonisation and commodification. The same old mindset, greenwashed and rolled out for public consumption.

Ardern’s utterances on the dangers of free speech, the singularity of ‘truth’ and the implicit shift towards authoritarianism must be viewed

within the context of managing an economic crisis. What she was saying revealed how the financial and political elites based on Wall Street, in Washington and in the City of London were thinking.

The authorities fear blowback in terms of mass dissent and uprisings. A few years ago, Liz Truss, then UK prime minister, wanted to place 'legal curbs' on striking trade unions. There is also the Police, Crime, Sentencing and Courts (PCSC) Act 2022, which may undermine the right to protest.

It therefore comes as no surprise that, today, individual rights and free speech are under threat. The ultimate control mechanism would be linking central bank digital currencies to personal carbon footprints (including eating habits), spending and dissent in an age of economic turmoil. Trudeau might have given the game away on that when he hit protesting truckers where it hurt most — restricting access to bank accounts.

How long before 'misinformation' and challenging 'the truth' becomes thought crime and — as Jacinda Ardern might put it — 'cruel to be kind' actions are taken against those who challenge dominant state-corporate narratives?

Well, not long because we have already witnessed it during the last few years. A doubling down since COVID.

Tyranny is the type of 'kindness' we don't need.

Enemy within

The term 'enemy within' was popularised by Margaret Thatcher during the UK miners' strike in 1984-85 to describe the striking miners. But it is a notion with which Britain's rulers have regarded

protest movements and uprisings down the centuries. From the Peasants' Revolt in 1381 to the Levellers and Diggers (who are discussed in the final chapter) in the 17th century, it is a concept associated with anyone or any group that challenges the existing social order and the interests of the ruling class.

John Ball, a radical priest, addressed the Peasants' Revolt rebels with the following words:

“Good friends, matters cannot go well in England until all things be held in common; when there shall be neither vassals nor lords; when the lords shall be no more masters than ourselves.”

The revolt was suppressed. John Ball was captured and hung, drawn and quartered. Part of the blood-soaked history of the British ruling class.

Later on, the 17th-century Diggers' movement wanted to create small, egalitarian rural communities and farm on common land that had been privatised by enclosures.

The 1975 song ‘The world Turned Upside Down’ by Leon Rosselson commemorates the Diggers. His lyrics describe the aims and plight of the movement. In Rosselson's words, the Diggers were dispossessed via theft and murder but reclaimed what was theirs only to be violently put down.

Little surprise then that, in the 1980s, Margaret Thatcher used the full force of state machinery to defeat the country's most powerful trade union, the shock troops of the labour movement, the National Union of Mineworkers — ‘the enemy within’. She needed to do this to open the gates for capital to profit from the subsequent deindustrialisation

of much of the UK and the dismantling of large parts of the welfare state.

And the result?

A hollowed-out, debt-bloated economy, the destruction of the social fabric of entire communities and the great financial Ponzi scheme — the ‘miracle’ of deregulated finance — that now teeters on the brink of collapse, leading the likes of Kapito and Pill to tell the public to get ready to become poor.

And now, in 2024, the latest version of the ‘enemy within’ is anyone who disseminates ‘misinformation’ — anything that challenges the official state-corporate narrative. So, this time, one goal is to have a fully controlled (censored) internet.

For instance, US Special Operations Command (USSOCOM) awarded Accrete a contract for Argus to detect disinformation threats from social media. Argus is AI software that analyses social media data to predict emergent narratives and generate intelligence reports at a speed and scale to help neutralise viral disinformation threats.

[Accrete AI](#) is a leading dual-use enterprise AI company. It deployed its AI Argus software for open-source threat detection with the [US Department of Defense in 2022](#).

In a press release, Prashant Bhuyan, founder and CEO of Accrete, boasted:

“Social media is widely recognised as an unregulated environment where adversaries routinely exploit reasoning vulnerabilities and manipulate behaviour through the intentional spread of disinformation. USSOCOM is at the tip of the spear in recognising the

critical need to identify and analytically predict social media narratives at an embryonic stage before those narratives evolve and gain traction. Accrete is proud to support USSOCOM's mission.”

This is about predicting wrong think on social media. But control over the internet is just part of a wider programme of establishment domination, surveillance and dealing with protest and dissent.

The online article [How the Government Weaponizes Surveillance to Silence Its Critics](#) notes that, on any given day, the average person in the US is [monitored, spied on and tracked in more than 20 different ways](#).

The authors of the article ask us to consider some of the ways the US government is weaponising its surveillance technologies to flag citizens as a threat to national security, whether or not they have done anything wrong — from flagging citizens as a danger based on their feelings, phone and movements to their spending activities, social media activities, political views and correspondence.

The elite has determined that the existential threat is you. The article [Costs of War: Peterloo](#), written by UK Veterans for Peace member Aly Renwick, details the history of the brutal suppression of protesters by Britain's rulers. He also strips away any notion that some may have of a benign, present-day ruling elite with democratic leanings. The leopard has not changed its spots.

As we saw during COVID, the thinking is that hard-won rights must be curtailed, freedom of association is reckless, free thinking is dangerous, dissent is to be stamped on, impartial science is a threat and free speech is deadly. Government is 'the truth', Fauci (or some similar figure) is 'the science' and censorship is for your own good.

None of this was justified. It only begins to make sense if we regard the COVID restrictions in terms of trying to deal with an economic crisis by closing down the global economy under cover of a public health crisis.

The economic crisis is making many people poorer, so they must be controlled, monitored and subjugated.

The transitions mentioned at the start of this chapter along with the surveillance agenda (together known as the ‘Great Reset’) are being accelerated at this time of economic crisis when countless millions across the West are being impoverished. The [collapsing US-led financial system](#) is resulting in an interrelated global debt, inflation and ‘austerity’ crisis and the biggest transfer of wealth to the rich in history.

Integral to this is the ‘food transition’ and the ‘climate emergency’ narrative, an intertwined commentary that has been carefully constructed and promoted (see the work of investigative journalist [Cory Morningstar](#)), and net-zero ideology tied to carbon farming and carbon trading.

The ‘food transition’ involves locking farmers (at least those farmers who will remain in farming) further into a corporate-controlled agriculture that extracts wealth and serves the market needs of global corporations, carbon trading Ponzi schemes and institutional investors and speculators with no connection to farming who regard agriculture, food commodities and agricultural land as mere financial assets. These farmers will be reduced to corporate profit-extracting agents who bear all of the risks.

This predatory commercialisation of the countryside attempts to use [flawed premises and climate alarmism](#) to legitimise the roll-out of technologies to supposedly deliver us all from climate breakdown and Malthusian catastrophe.

Meanwhile, a wealthy elite increasingly funds science, determines what should be studied, how it should be studied and how the findings are disseminated and how the technology produced is to be used.

This elite has the power to shut down genuine debate and to smear and censor others who question the dominant narrative. The prevailing thinking is that the problems humanity face are to be solved through technical innovation determined by plutocrats and consolidated corporate power.

This haughty mindset (or outright arrogance) leads to and is symptomatic of an authoritarianism that seeks to impose a range of technologies on humanity with no democratic oversight. This includes self-transmitting vaccines, the genetic engineering of plants and humans, synthetic food, geoengineering and transhumanism.

And in India, as we have seen, it involves the imposition of policies in agriculture that, too, also lack any form of democratic oversight or debate. During the farmers' protest in 2020-21, influential media and commentators wasted no time in attempting to portray farmers as 'anti-national' and the 'enemy within'.

What we see is a misguided eco-modernist paradigm that concentrates power and privileges techno-scientific expertise (a form of technocratic exceptionalism). At the same time, historical power relations (often rooted in agriculture and colonialism) and their legacies within and between societies across the world are

conveniently ignored and depoliticised. Technology is not the cure-all for the destructive impacts of poverty, inequality, dispossession, imperialism or class exploitation.

When it comes to the technologies and policies being rolled out in the agriculture sector, these phenomena will be reinforced and further entrenched — and that includes illness and poor health, which have markedly increased as a result of the modern food we eat and the agrochemicals and practices already used by the corporations pushing for the ‘food transition’. However, that then opens up other money-spinning techno-fix opportunities in the life sciences sector for investors like BlackRock that invest in both agriculture and pharmaceuticals.

But in a neoliberal privatised economy that has often facilitated the rise of members of the controlling wealthy elite, it is reasonable to assume that its members possess certain assumptions of how the world works and should continue to work: a world based on deregulation with limited oversight and the hegemony of private capital and a world led by private individuals like Bill Gates who think they know best.

Whether through, for instance, the patenting of life forms, carbon trading, entrenching market (corporate) dependency or land investments, their eco-modern policies serve as cover for generating and amassing further wealth and for cementing their control.

It should come as little surprise that powerful people who have contempt for democratic principles (and by implication, ordinary people) believe they have some divine right to undermine food

security, close down debate, enrich themselves further courtesy of their technologies and policies and gamble with humanity's future.

But the powers that be fear that the masses might once again pick up their pitchforks and revolt. They are adamant that the peasants must know their place.

However, the flame of protest and dissent from centuries past still inspires and burns bright.

Chapter XIII

Reclaim the Future

Economist [Prof Michael Hudson](#) stated in 2014:

“It’s by agriculture and control of the food supply that American diplomacy has been able to control most of the Third World. The World Bank’s geopolitical lending strategy has been to turn countries into food deficit areas by convincing them to grow cash crops — plantation export crops — not to feed themselves with their own food crops.”

[In 2019, Hudson described](#) how debt, sanctions and the US-controlled international monetary system had backed Venezuelan president Maduro into a corner. Venezuela had become an oil monoculture, with revenue having been spent largely on importing food and other necessities, which it could have produced itself.

In this respect, World Trade Organization (WTO) policies and directives, debt and US-supported geopolitical lending strategies have compelled many countries in the Global South to eradicate [food self-sufficiency and undermine their own food security](#).

The control of global agriculture has been a tentacle of US capitalism’s geopolitical strategy. The Green Revolution was exported courtesy of [oil-rich interests](#), and poorer nations adopted Western agri-capital’s

chemical- and oil-dependent model of agriculture that required loans for inputs and related infrastructure development. It entailed trapping nations into a globalised system of debt bondage, rigged trade relations and a system vulnerable to oil price shocks (this was touched on in the final chapter of *Sickening Profits*).

Weaponising food

In his book [The Unsettling of America](#) (1977), Wendell Berry criticises the US Department of Agriculture for adopting a doctrine that treats food as an instrument of foreign political and economic speculation. Berry argues that treating food as a weapon ultimately serves the interests of large agribusiness corporations rather than farmers or consumers.

He sees the weaponisation of food as part of a larger problem where agriculture is divorced from its cultural and ecological roots, leading to numerous negative consequences. Berry's book discusses how modern agriculture has fostered a disconnect between people and the land. He laments that farming has been reduced to a mere business venture rather than a way of life that nurtures community and culture.

A business venture *and* a geopolitical weapon.

Something not lost on environmentalist Vandana Shiva who does not hesitate to label agrochemical companies as a poison cartel. She emphasises that this designation stems not only from the harmful effects of its chemicals on the food system but also from the historical connections of corporations like Bayer and BASF to warfare and chemical weapons. These companies have roots in producing toxic substances used during conflicts, including World War I and II, where

they manufactured chemical agents such as chlorine gas and Zyklon B, the latter infamously used in Nazi gas chambers.

These practices reflect a broader underlining (historical) pattern of exploitation and violence in the food system that undermines both human health and ecological integrity.

Major agribusiness companies are deeply embedded in supranational policymaking machinery that allows them to draw up policies to serve their own interests. For instance, Monsanto played a key part in drafting the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights to create seed monopolies, and the global food processing industry (Cargill) had a leading role in shaping the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. The powerful agribusiness lobby has secured privileged access to policy makers to ensure its model of agriculture prevails.

And those same companies also profit [from war](#) and sovereign debt traps to gain access to markets (see, for instance, [Sowing the Seeds of Famine in Ethiopia](#) by Michel Chossudovsky).

Hit lists, the corruption of science, profiteering and the infiltration of regulatory bodies aside (the list could go on), food cultivation — an endeavour that at its core seeks to nourish and sustain life — has been hijacked and weaponised to coerce, control and suck away life from nature and people.

And Bayer talks about ‘backwardness’, as if any of the above is progressive. But few illusions are as pervasive and pernicious as the ideology of ‘progress’ and ‘development’ that hides behind corporate

lobbyist soundbites about agribusiness and its money-spinning inputs being needed to prevent mass starvation.

Development?

This ideology, propped up by the twin pillars of techno-solutionism and technocracy has become the unquestioned truth of the age, a secular religion that promises salvation through the relentless march of technology and the wisdom of experts.

[Writer Paul Cudenec](#) says that ‘development’:

“... is the destruction of nature, now seen as a mere resource to be used for development or as an empty undeveloped space in which development could, should and, ultimately, must take place. It is the destruction of natural human communities, whose self-sufficiency gets in the way of the advance of development, and of authentic human culture and traditional values, which are incompatible with the dogma and domination of development.”

Cudenec argues that those behind ‘development’ have been destroying everything of real value in our natural world and our human societies in the pursuit of personal wealth and power. Moreover, they have concealed this crime behind all the positive-sounding rhetoric associated with development on every level.

Indeed, the notion that human society is on an inevitable trajectory of improvement, driven by technological innovation and guided by technocratic elites, is perhaps the most insidious myth of our time. This narrative of perpetual progress is a convenient smokescreen, obscuring the stark realities of environmental degradation, social

inequality and spiritual impoverishment that characterise so-called advanced civilisation.

At the heart of this ideology lies the naive belief in techno-solutionism — the misguided faith that every problem, no matter how complex or deeply rooted in social and political structures, can be solved with the right technological fix. This reductionist worldview reduces the human experience to a series of technical challenges, eagerly awaiting the next groundbreaking innovation to set things right.

Agriculture? Just invent more data-gathering apps. Poverty? Develop an app for that. This simplistic approach not only fails to address the root causes of our predicaments but actively distracts us from the necessary work of systemic change and collective action.

Hand in hand with techno-solutionism marches technocracy — the idea that society would be best governed by the rich, technical experts and engineers rather than elected representatives or, just imagine, ordinary people! This elitist vision of governance places undue faith in the objectivity and benevolence of a technocratic class, ignoring the fact that these so-called experts are just as susceptible to self-interest as any other group.

The technocratic mindset reduces the vibrant reality of human society to a series of data points and algorithms, treating citizens as variables in a grand social engineering experiment. A worldview that values efficiency over empathy, optimisation over justice and control over freedom. In this brave new world, the nuances of culture, the wisdom of tradition and the unpredictability of human nature are seen as inconvenient obstacles to be overcome rather than essential aspects of the human experience.

Proponents of this ideology of progress would have us believe that we're living in the best of all possible worlds — or at least on the path to it with the proliferation of gadgets as irrefutable evidence of our ascent. But this narrative of continuous improvement conveniently ignores the widening wealth gap, corporate corruption, the epidemic of mental health issues, the erosion of community ties and a globalised food system that results in all manner of illness and environmental degradation.

The obsession with technological progress and economic growth has come at a tremendous cost. Elite interests have sacrificed the health of the planet, the well-being of countless species and our own connection to the natural world on the altar of 'development'. They traded meaningful work and genuine human connections for the hollow notion of convenience and efficiency. The quantifiable trumps the qualitative, reducing the human experience to a series of metrics.

The ideology of progress serves as a powerful tool for maintaining the status quo. By perpetuating the myth that our current corrupt system is the pinnacle of human achievement, or at least the best we can hope for (there is no alternative!) stifles imagination and is meant to induce apathy and demotivate the masses in striving to bring about meaningful change. And those who dare to question the wisdom of endless growth or propose alternative models of social organisation are censored or dismissed as naive idealists or dangerous radicals.

The tech giants and corporations that benefit most from this ideology have become the new high priests of our age, peddling their digital opiates and shiny gadgets as the path to a better future. They promise connection but deliver isolation, offer information but breed confusion

and pledge empowerment while tightening the public noose of surveillance.

Reclaim the future

Ordinary people need to reclaim their agency, get off their cell phones and reimagine their relationship with technology, viewing it as a tool to be wielded judiciously rather than a force that shapes our destiny.

We need to forge a new path that values human flourishing over ‘growth’, that prioritises ecological harmony over technological domination and that recognises the inherent worth of all beings — not just those deemed productive by the economic system.

This means challenging the state-corporate-financial- digital elite, who use their wealth, policies and technologies to wage a class war on ordinary people, while reclaiming the power to shape our societies through collective action.

It means reevaluating our definition of progress, moving beyond simplistic metrics of economic growth to consider the true measures of human and ecological well-being. And it means appreciating the complexity of the world, recognising that not every problem has a technological solution and that some of the most valuable aspects of human existence cannot be quantified or optimised.

We find ourselves at a critical juncture where the very foundations of our food systems and, indeed, our relationship with the natural world are being systematically dismantled and reconstructed to serve the interests of a unimaginably rich elite. As we stand on the precipice of a brave new world dominated by genetically engineered crops, lab-grown meat and AI-driven farming, it is imperative that we pause and critically examine the path we are being herded down.

The time has come to resist and reject the unchecked corporatisation and mechanisation of our food and, indeed, our lives.

The Green Revolution, once hailed as the saviour of the 'developing world', has instead trapped millions of farmers in cycles of debt and dependency, while reducing the nutritional value of food and decimating biodiversity.

Now, we are told that the solution to current problems lies in even more technology — gene editing, precision agriculture and artificial intelligence. But this is merely doubling down on a failed paradigm. These 'solutions' are not designed to address the root causes of our food crisis, but rather to further consolidate control over the food system in the hands of a few powerful corporations.

Consider the push for genetically modified organisms and the new wave of gene-edited crops. Proponents claim these technologies will increase yields and reduce pesticide use. Yet, decades of cultivation of genetically modified organisms have shown us that these promises are hollow. Instead, we have seen the rise of superweeds, increased pesticide use and the erosion of seed sovereignty as farmers become beholden to patent-holding corporations.

Similarly, the drive towards 'smart' farming and precision agriculture is often presented as a path to sustainability. In reality, it's a trojan horse for increased corporate control and farmer disempowerment. As farms become more reliant on proprietary software, expensive machinery and data-driven decision making, traditional farming knowledge is devalued, and farmers are reduced to mere operators in a system they no longer fully understand or control.

The solution lies in a return to human-scale agriculture, rooted in agroecological principles. This is not a romanticised view of the past but a forward-thinking approach that recognises the wisdom embedded in traditional farming practices while selectively incorporating appropriate technologies. Agroecology works with nature rather than against it, fostering biodiversity, building soil health and creating resilient food systems.

The push for lab-grown meat and ultra-processed, plant-based alternatives is not about sustainability or animal welfare but about wresting control of protein production from farmers and placing it in the hands of tech companies and their investors. These products, often marketed as eco-friendly solutions, are in reality energy-intensive, highly processed foods that further disconnect us from the natural world and our food sources.

In the face of this techno-industrial onslaught, we must advocate for food sovereignty — 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. This means resisting the corporatisation of our food supply, supporting local food systems and preserving the diversity of crops and culinary traditions that have nourished humanity for millennia.

Chapter XIV

In 1649...

In attempting to shape the future, we can indeed look to the past for inspiration and reclaim part of history by drawing from the radical vision and actions of ‘the Diggers’ movement (1649-1651).

In the annals of agrarian history, one particular movement has left a profound impact on the collective imagination of food sovereignty advocates. The Diggers in 17th century England were led by the visionary Gerrard Winstanley. This radical group emerged during a period of intense social and political upheaval, offering a revolutionary perspective on land ownership and food production that continues to resonate with modern struggles for food justice.

The Diggers, also known as the True Levellers, arose in 1649, a time when England was reeling from the aftermath of civil war. Winstanley and his followers dared to imagine a different world. The group challenged the very foundations of the emerging capitalist system and the enclosure movement that was rapidly privatising previously common lands. But Winstanley's vision was not merely theoretical.

On 1 April 1649, the Diggers began their most famous action, occupying St. George's Hill in Surrey, where they established a commune, cultivating the land collectively and distributing food freely to all who needed it. This act of direct action was a powerful demonstration of their philosophy in practice.

As Winstanley declared:

"The earth was made to be a common treasury for all, not a private treasury for some."

The Diggers, true to their name, began their movement by literally digging up unused common lands and planting crops. According to [Professor Justin Champion](#), they planted "peas and carrots and pulses" and let their cows graze on the fields.

While the Diggers saw their actions as relatively harmless (Champion compares it to having an allotment), local property owners viewed it as a serious threat, likening it to "village terrorism", according to Champion.

The local landowners called in troops to suppress these actions. Despite their relatively small numbers and short-lived experiments, which spread across parts of England, Champion suggests that the Diggers posed a significant ideological threat to the existing social order, challenging notions of private property and social hierarchy.

Winstanley [declared](#):

"Those that Buy and Sell Land, and are landlords, have got it either by Oppression, or Murther, or Theft".

He added:

"The Work we are going about is this, To dig up Georges-Hill and the waste Ground thereabouts, and to Sow Corn, and to eat our bread together by the sweat of our brows. And the First Reason is this, That we may work in righteousness, and lay the Foundation of making the Earth a Common Treasury for All, both Rich and Poor, That every one

that is born in the land, may be fed by the Earth his Mother that brought him forth, according to the Reason that rules in the Creation.”

The backlash from local landlords was systematic. The Diggers faced beatings and arson, forcing them to move from St George's Hill to a second site in Cobham, until they were finally driven off the land entirely.

Writing in 1972 in his book [The World Turned Upside Down](#), Christopher Hill, a prominent historian of the English Civil War period, suggested that the Diggers' influence was more widespread than just their most famous colony at St. George's Hill. He argued that from Nottinghamshire and Northamptonshire to Gloucestershire and Kent, Digger influence spread all over southern and central England.

While the actual number of people involved in Digger experiments was relatively small (estimated at 100-200 people across England), their ideas spread more widely through pamphlets and word of mouth.

This widespread influence, as described by Hill, suggests that the Diggers' ideas resonated with people across a significant portion of England, even if actual Digger colonies were few in number.

The Diggers were a radical, biblically inspired movement that practically implemented their beliefs about common ownership of land, provoking strong opposition from the established landowners despite their generally peaceful methods.

The St. George's Hill experiment represented a radical alternative to the prevailing economic and social order. It was an early example of what we might today call a food sovereignty project, emphasising local control over food production and distribution.

In today's era of industrial agriculture and corporate food systems, the Diggers' ideas remain highly significant. Their resistance to the enclosure of common lands in the 17th century mirrors today's struggles against corporate land grabs — and the colonising actions that underpin the likes of Bayer's corporate jargon about the unlocking of 'business growth', 'driving change management', 'driving market share' and 'creating business value' — as well as the privatisation of seeds and genetic resources.

The consolidation of the global agri-food chain in the hands of a few powerful corporations represents a modern form of enclosure, concentrating control over food production and distribution in ways that would have been all too familiar to Winstanley and his followers.

The Diggers' emphasis on local, community-controlled food production offers a stark alternative to the industrial agriculture model promoted by agribusiness giants and their allies in institutions like the World Bank and the WTO. Where the dominant paradigm prioritises large-scale monocultures, global supply chains and market-driven food security, the Diggers' vision aligns more closely with concepts of food sovereignty and agroecology.

Food sovereignty, a concept developed by the international peasant movement *La Via Campesina*, shares much with the Diggers' philosophy. Both emphasise the right of communities to define their own food and agriculture systems.

The Diggers' legacy can be seen in various contemporary movements challenging the corporate food regime. From [La Via Campesina's](#) global struggle for peasant rights to local community garden initiatives and the work of the Agrarian Trust in the US (which provides good

insight into the Diggers and their continued relevance in [The Diggers Today: Enclosure, Manure and Resistance](#)), we see echoes of the Diggers' vision.

Modern projects to create community-owned farms, seed banks and food cooperatives can be seen as spiritual descendants of the Diggers' movement, aiming to reclaim food production from corporate control and put it back in the hands of communities.

However, realising the Diggers' vision in the current context faces significant obstacles.

The influence of agribusiness conglomerates over key institutions and policymaking bodies presents a formidable challenge. From the World Bank to national agriculture ministries, as this book has made clear, corporate interests often shape policies that prioritise industrial agriculture and global markets over local food systems. International trade agreements and MoUs, often negotiated with minimal public scrutiny, frequently benefit large agribusiness at the expense of small farmers and local food sovereignty.

Moreover, proponents of industrial agriculture often argue that it is the *only* way to feed the world. This narrative, however, ignores the environmental and social costs of this model, as well as the proven productivity of small-scale, agroecological farming methods.

The Diggers didn't just theorise about an alternative society; they attempted to build it by taking direct action, occupying land and implementing their vision of communal agriculture.

The Diggers also understood that changing the food system required challenging broader power structures. Today's food sovereignty movements similarly recognise the need for systemic change,

addressing issues of land rights, trade policies and economic justice alongside agricultural practices.

In this era of corporate-dominated agriculture, the Diggers' vision of a "common treasury for all" remains as radical and necessary as ever.

By reclaiming the commons, promoting agroecological practices and building food sovereignty, ordinary people can work towards a world where food is truly a common treasury for all.

The Diggers recognised that true freedom and equality could not be achieved without addressing the fundamental question of who controls the land and the means of production. This understanding is crucial in the current context, where corporate control over the food system extends from land, seeds and inputs to distribution and retail.

The Diggers' vision also challenges us to rethink our relationship with the land and with each other. In a world increasingly dominated by individualism and market relations, the emphasis on communal ownership and collective labour offers a radical alternative.

The Diggers' legacy challenges us to think beyond the confines of the prevailing food regime, to envision and create a world where food and land are not commodities to be bought and sold but common resources to be shared and stewarded for the benefit of all.

Their vision of a world where "the earth becomes a common treasury again" is not a quaint historical curiosity, but a vital and necessary alternative to the destructive practices of those who dominate the current food system.

It is noteworthy that the annual Wigan Diggers Festival celebrates the life and ideas of Wigan born and bred Gerrard Winstanley and the Diggers' Movement (see [Wigan Diggers' Festival](#)).

But let us finish with Leon Rosselson's song lyrics from his 1975 song in reference to the Diggers' movement (Billy Bragg's version can be found here on [YouTube](#)).

The World Turned Upside Down

In sixteen forty-nine/To St. George's Hill
A ragged band they called the Diggers/Came to show the people's will
They defied the landlords/They defied the laws
They were the dispossessed reclaiming what was theirs

We come in peace they said/To dig and sow
We come to work the lands in common/And to make the waste
grounds grow
This earth divided/We will make whole
So it will be/A common treasury for all

The sin of property/We do disdain
No man has any right to buy and sell/The earth for private gain
By theft and murder/They took the land
Now everywhere the walls/Spring up at their command

They make the laws/To chain us well
The clergy dazzle us with heaven/Or they damn us into hell
We will not worship/The God they serve
The God of greed who feed the rich/While poor man starve

We work we eat together/We need no swords
We will not bow to masters/Or pay rent to the lords

We are free men/Though we are poor
You Diggers all stand up for glory/Stand up now
From the men of property/The orders came
They sent the hired men and troopers/To wipe out the Diggers' claim
Tear down their cottages/Destroy their corn
They were dispersed/Only the vision lingers on
You poor take courage/You rich take care
The earth was made a common treasury/For everyone to share
All things in common/All people one
We come in peace/The order came to cut them down