THE ELEPHANT AT THE TABLE:

Policy Pathways to Confront **Power in Food** Systems

José Luis Chicoma and Kristin Reynolds (editors). María Fernanda Mideros Bastidas, Nicolás Rovegno Arrese, Emma McDonell, Chris Vogliano, Jessica Duncan, and Sayed Azam-Ali



Executive Summary

Food systems will not be transformed unless power is confronted—not as an abstract concept, but as concrete control over land and water, markets and labor, taste and narratives. The stakes could not be higher: food systems must feed everyone, regenerate ecosystems, and provide decent livelihoods, yet we are failing on all fronts. This failure is not due to lack of knowledge or productive capacity, but to entrenched power inequities that stem from long-standing historical structures, are actively reinforced by today's policies and incentives, and drive hunger, malnutrition, ecological collapse, and social injustice.

This report moves beyond diagnosis to proposals—concrete, structural, and actionable recommendations that address power directly. Power is the elephant "at the table": the concept of "broken food systems" is now a common refrain, yet the structures that keep them broken remain largely intact. Technocratic fixes—delivering at best marginal change—and multi-stakeholder initiatives, often dominated by powerful interests, create the appearance of change without shifting who decides, who benefits, and who bears the costs.

Rather than leaving that elephant unaddressed, the report advances public policy pathways to shift the balance of power across food systems—to act on power rather than merely acknowledging it. The chapter briefs in this report explore different domains—agroecology, fisheries and aquaculture, neglected and underutilized species, supply chains, nutrition, seeds, and governance—but converge on the same premise: real transformation is only possible when power relations shift.

We use **power inequities** to refer to uneven political agency, economic strength, market influence, and other resources—what the World Health Organization (WHO, n.d.) refers to as avoidable differences. Unlike inequalities or asymmetries, these are not neutral gaps to be filled equally—corporations and powerful states already command disproportionate resources, rooted in colonial legacies and reinforced by current policies. Ignoring them allows marginal reforms to masquerade as structural transformation.

All food systems actors navigate power inequities in different ways: policymakers negotiate with lobbies and trade-offs; development banks

shape reforms through loans that often reflect shareholder interests; United Nations agencies pursue ambitious goals while constrained by funders and governments; non-governmental organizations move between corporate partnerships and alliances with social movements; grassroots actors often push directly to change the system. It is understandable that, in many cases, rather than flipping the table, actors try to move what is within reach. However, not confronting power inequities has costs for all actors involved by reproducing the very conditions that food systems transformation work is meant to undo: inequality, ecological degradation, and food insecurity and malnutrition.

The report opens with an examination of the following four systemic but tangible power inequities:

- Unequal access to and control of resources: Resource inequities are rooted in colonial dispossession and patriarchal norms. They are reinforced through land and ocean grabbing, intellectual property regimes, biased financial access and infrastructure investment, and the treatment of food itself as a commodity and a speculative asset.
- Exclusive governance: Neoliberal reforms have hollowed out state capacities while corporate capture reshapes institutions. Western paradigms marginalize Indigenous and local voices, and geopolitical fractures deepen inequities as food is weaponized in conflicts and trade tensions destabilize supply chains.
- Widespread market concentration: A handful of firms dominate seeds, agrochemicals, the grain trade, processing, and retail, with similar consolidation in fisheries, aquaculture, shipping, finance, and digital platforms. This drives homogenization, fragility, and corporate influence over governance.
- **Precarious and undervalued labor:** Food systems run on underpaid labor—seasonal, migrant, and informal— with workers excluded from protections, and women and Indigenous peoples disproportionately relegated to the lowest-paid, most dangerous, and least secure roles.

These inequities persist not only through structures but also through **narratives** that legitimize them—casting food as a commodity, privileging modernization, and reducing transformation to technical fixes.

Building on this analysis, we then **identify concrete policy pathways** across four domains:

- Redistribute access, control, and ownership of resources. Prioritize
 control of land, water, forests, seeds, finance, technology, and infrastructure for small-scale producers, Indigenous communities,
 and territorial food systems. Redirect subsidies, climate finance,
 and public investment toward agroecology, community systems,
 and local markets.
- 2. **Rebalance power between actors.** Move beyond inclusion to shift power away from corporations that entrench concentration and toward the actors advancing transformation. Competition reforms, labor protections, investment in social movements, and a far stronger state role—with radical accountability—restoring core functions and

reorienting economic governance to enable trade, climate, biodiversity, and innovation to serve real transformation in food systems.

- 3. Guarantee food access through market, public, and community mechanisms. Strengthen traditional and informal markets, reorient retail environments, and expand consumer cooperatives. Redesign procurement in schools and hospitals, create targeted subsidies, and recognize public and community-run canteens and grocery stores as essential infrastructure. Support community kitchens, food banks, and mobile markets that provide fresh, nutritious food while reinforcing collective control over access.
- 4. **Confront power inequities in policy discourse and narratives.** Expose how dominant narratives are produced and financed to sustain inequities, while creating space for alternative perspectives.

The analyses and recommendations set out in the beginning of the report serve as a guide to understanding power inequities and policy pathways in food systems in the sections that follow. We then examine how **these dynamics play out in specific areas of food systems**, and propose concrete priorities to address them:

Reclaiming Agriculture: Unveiling the Transformative Potential of Agroecology

Agroecology is constrained less by technical limits than by entrenched inequities—land and water concentration, corporate-dominated governance, and knowledge systems that sideline farmers. The priority is to politically reclaim agroecology: redistribute land and water, embed ecological goals in reform, redirect public finance to small-scale producers and rural work, and anchor agroecological economies through procurement, territorial markets, and cooperatives.

Navigating a Blue Future: Reimagining Aquatic Food Systems

A handful of corporations dominate fleets, aquaculture, and access agreements, while waters in the Global South are exploited and nutritious fish turned into feed for luxury aquaculture. The priority is to redirect subsidies toward artisanal fisheries, restoration, and local infrastructure, require industry to pay management costs, and use procurement to anchor markets. Small ocean fish (pelagics) must be prioritized for human consumption, access agreements made equitable, and aquaculture decoupled from fishmeal through investment in native species.

Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems

Traditional and informal markets feed millions yet remain stigmatized and structurally sidelined by neoliberal reforms and corporate concentration. The priority is to make them central to policy and investment: strengthen local processing, storage, and distribution, secure recognition and rights for informal actors, adapt food safety rules to diverse realities, and reorient subsidies, procurement, and reserves to territorial markets and biodiverse producers, while confronting harmful mergers and abusive contracting.

Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation

NUS, sustained by marginalized communities, are neglected in policy and distorted by "superfood" export models. The priority is to redistribute quality resources—land, water, finance, infrastructure—to marginalized farmers, subsidize strategic NUS identified locally, integrate them into procurement and welfare programs, and invest in participatory research and small-scale processing. Flexible quality standards and culturally rooted campaigns must expand local consumption while preventing corporate capture.

Democratizing Diets: Strategies to Make Biodiverse, Healthy Diets Affordable and Accessible

Healthy diets remain out of reach due to consolidation, subsidies for calorie-dense commodities, and policies that favor ultra-processed foods. The priority is to make affordability a public guarantee: tax ultra-processed products, redirect subsidies to nutrient-rich crops, and establish universal nutrition guarantees through procurement in schools, hospitals, and welfare systems. Public investment should stabilize markets for diverse producers, while community-led initiatives should expand access and local control.

Power Shift: Radical Restructuring of Food Systems Governance

Governance is where power is concentrated and legitimized, with multistakeholder platforms amplifying corporate influence, weak states retreating, and food weaponized in geopolitical conflicts. The priority is to redistribute decision-making power: strengthen democratic structures with enforceable accountability, restrict corporate-dominated arenas, reinforce inclusive spaces like the United Nations Committee on World Food Security (CFS), and embed pluralist approaches that integrate Indigenous and local knowledge into policy while avoiding appropriation and co-optation of this knowledge.

Farmers First: Reclaiming Seed Sovereignty for Biodiverse Value Chains

Seed systems have been enclosed by intellectual property (IP) regimes, restrictive laws, and corporate consolidation, eroding farmers' ability to save and share seeds. The priority is to restore farmers' central role

by embedding farmers' rights and the Right to Food in law and practice, guaranteeing secure land access, reforming IP and seed laws, and redirecting public investment toward biodiverse crops, farmer-led research, and community seed networks, with procurement incentives for products derived from biodiverse seeds.

Conclusion

Confronting power inequities is the foundation of meaningful food systems transformation. Policies that address hunger, malnutrition, environmental degradation, or poverty without redistributing power risk repeating cycles of marginal reform and disappointment. What is needed are courageous actions that take seriously the political nature of food, acknowledge the unequal relations that shape domestic and global outcomes, and translate this awareness into structural reforms. The policy proposals in this report are guided by a simple premise: real transformation is political, and it requires confronting power inequities directly while charting concrete pathways for change.

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Key Abbreviations and Acronyms Used in this Report

ETC Group	Action Group on Erosion, Technology, and Concentration
CIAT	Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture)
CFS	Committee on World Food Security
CSA	Community-Supported Agriculture
СОР	Conference of the Parties
CGIAR	Consultative Group on International Agricultural Research (former name)
CBD	Convention on Biological Diversity
CARE	Cooperative for American Remittances to Europe (former name)
CSR	Corporate Social Responsibility
DG MARE	Directorate-General for Maritime Affairs and Fisheries
ESG	Environmental, Social, and Governance

EIT	European Institution of Innovation and Technology
EU	European Union
FIFO	Fish In, Fish Out
FAO	Food and Agriculture Organization
FBDGs	Food-Based Dietary Guidelines
FIAN	Food First Information and Action Network (former name)
HDB	Healthy Diet Basket
HLPE-FSN	High Level Panel of Experts on Food Security and Nutrition
IPA	Innovations for Poverty Action
IPR	Intellectual Property Rights
IPCC	Intergovernmental Panel on Climate Change
ICESCR	International Covenant on Economic, Social and Cultural Rights
IFAD	International Fund for Agricultural Development
INGO	International Non-Governmental Organization
ILO	International Labour Organization
IMF	International Monetary Fund

IPES-Food	International Panel of Experts on Sustainable Food SystemsFood-Based Dietary Guidelines
IUCN	International Union for Conservation of Nature
LVC	La Vía Campesina
LGBTQIA+	Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Agender
MSY	Maximum Sustainable Yield
MST	Movimento dos Trabalhadores Rurais Sem Terra (Landless Workers Movement)
NEF	New Economic Foundation
NUS	Neglected and Underutilized Species
NGO	Non-Governmental Organization
OHCHR	Office of the United Nations High Commissioner for Human Rights
OECD	Organisation for Economic Co-operation and Development
PES	Payments for Ecosystem Services
PBR	Plant Breeders' Rights
PwC	PricewaterhouseCoopers
PL-480	Public Law 480 (Agricultural Trade Development and Assistance Act, United States)

SAP	Structural Adjustment Program
SDGs	Sustainable Development Goals
TMG	TMG Think Tank for Sustainability
TEK	Traditional Ecological Knowledge
UPF	Ultra-Processed Foods
UNDRIP	UN Declaration on the Rights of Indigenous Peoples
UPOV	Union internationale pour la Protection des Obtentions Végétales (International Union for the Protection of New Varieties of Plants)
UNCCD	United Nations Convention to Combat Desertification
UNDROP	United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UN	United Nations
USAID	United States Agency for International Development
US	United States
UDHR	Universal Declaration of Human Rights
WBA	World Benchmarking Alliance

WEF	World Economic Forum
WFP	World Food Programme
WFS	World Food Summit
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature

Introduction

José Luis Chicoma and Kristin Reynolds

To truly transform food systems, we must confront what holds them in place: power. Not as an abstract force, but as concrete control over land, markets, labor, taste, and narratives. This report begins with common sense assumptions that should not be controversial: food systems must feed everyone, not only those that can afford it; they must regenerate ecosystems, not deplete them; and they must provide decent livelihoods to those who nourish us, not consign them to hunger and exploitation.

But the fact that we are not meeting these goals is not due to technical failures. Power inequities are at the root of hunger and malnutrition, the destruction of ecosystems and climate change, and deep social inequalities. Yet power is also the hardest barrier to address, because it is both historically entrenched and actively reinforced by today's economic and political systems—systems that have evolved to extract value for the benefit of a few, while externalizing costs onto the many (Sen, 1981; Patel & Moore, 2017; Clapp, et al., 2025).

Confronting power is thus urgent and essential for transforming food systems. This report presents a set of public policy recommendations to rebalance power in food systems. This rebalancing means, for example, redistributing the control, ownership, and management of land and water resources; redirecting public investment toward territorial systems and biodiversity; protecting and promoting traditional and informal food markets; and dismantling the institutional protections that uphold corporate concentration—whether through trade rules, subsidies, weak antitrust regulations and enforcement, or other mechanisms.

We present seven briefs on different domains—agroecology, fisheries and aquaculture, neglected and underutilized species, supply chains, nutrition, seeds, and governance—but all share the same premise: transformation is only possible when power shifts. The selection of topics addressed in this report is not exhaustive; it focuses on illustrative domains, while acknowledging that other areas of the food system would also benefit from a similar power-focused analysis and recommendations.

Power Is the Elephant "At the Table"

Power is too often absent from food policy debates. It is the subject many institutions and experts tiptoe around, it is obscured and depoliticized, reduced to questions of coordination, technical fixes, or marginal reforms (Clapp & Fuchs, 2009; IPES-Food, 2015).

The ubiquity of the phrase "broken food systems" shows what happens when power is left out of the debate: everyone agrees on the depth of the crisis, yet few are prepared to challenge the structures—or give up the privileges—that keep inequities in place. References to broken food systems now appear in United Nations declarations, corporate white papers, and philanthropic strategies—echoing what activists have said for decades (UN, 2023; Food Foundation, 2025; Beard, 2025). Some have questioned whether the term "broken" remains useful, yet the irony is that many of the same corporate leaders who have profited from the system now declare it broken—and even position themselves as those best equipped to fix it (Clapp, 2021; Canfield, Anderson, & McMichael, 2021; IPES-Food, 2023).

This language of crisis has been followed by the language of "transformation". Yet genuine food systems transformation remains elusive if we don't address the elephant at the table. We cannot accept claims of transformation when the proposed solutions—such as multi-stake-holder platforms or sustainable intensification (terms often used in food systems policy)—are little more than technocratic, marginal adjustments to the status quo, repackaged as bold changes (IPES-Food, 2016; McKeon, 2017; Clapp, Noyes, & Grant, 2021; Pereira et al., 2023; Horton, 2024; Juri et al., 2024).

Real transformation must be political. It requires naming where power lies, challenging those who hold power, building broad coalitions to shift power, and redistributing power to make meaningful change possible. Without this, we remain trapped in cycles of minimal reform—adjustments that create the appearance of progress while leaving the structures of exclusion and control intact (Clapp & Fuchs, 2009; IPESFood, 2023; Béné et al., 2024).

How Power Inequities Drive Food System Failures

Corporate concentration is the clearest symptom of these inequities. From seeds to supermarkets, a handful of firms dominate entire value chains, exerting outsized influence over what is grown and where, how it is processed, and what reaches our plates—or fails to. This dominance not only squeezes producers and narrows consumer choice, it also allows corporations to shape the very rules of the game through lobbying, regulatory capture, and privileged access to decision-makers (IPES-Food, 2017; Howard, 2021; Clapp et al., 2025).

But power is not just about corporations. Food systems are governed by policymakers and political actors who set agendas, define priorities, and decide whose participation counts—often in ways that align with corporate interests. They amplify some voices in policy debates while dismissing others as irrelevant, anecdotal, or unscientific. They

systematically exclude the very actors driving real transformation, from smallholder farmers and small-scale fishers to women, food workers, and social movements. These exclusions are not accidental but the product of deeper inequities in access to voice, representation, and political legitimacy. Even global institutions—often described as neutral platforms—are governed by the political interests of powerful states and donors with greater financial resources, making them less inclusive and prone to avoiding direct confrontation in order to preserve their influence (Clapp & Fuchs, 2009; IPES-Food, 2016; Canfield, Anderson, & McMichael, 2021).

Food systems are also built on the systematic use of cheap labor. From fields and fishing boats to packing plants and retail, profitability depends on workers who are underpaid and denied basic protections. Women, migrants, and informal workers are disproportionately concentrated in the lowest-paid and most dangerous jobs, which carry the risks of unsafe conditions, seasonal volatility, and sudden shocks. This dependence on precarity and exploitation is a clear expression of power inequity: it transfers value upward to corporations and consumers while stripping workers of security and rights (Patel & Moore, 2017; ILO, 2022; HLPE, 2023).

At the heart of these power imbalances lies **unequal access to and control over natural and financial resources**: land, water, oceans, seeds, technologies, and public investment. These inequities shape who produces food and under what conditions, as well as who benefits. They also determine which actors and activities are prioritized for infrastructure, credit, or research—and which are systematically neglected (Smith, 2021; Anderson & Maughan, 2021; IPES-Food 2022; IPES-Food, 2021a; Clapp & Isakson, 2023).

Today's global context is amplifying power inequities in food systems. Trade disruptions expose the vulnerability of global supply chains, with import-dependent regions particularly at risk of food insecurity. Food is increasingly weaponized, with the ongoing siege of Gaza and the deliberate use of starvation as a tool of control in its most devastating form. At the same time, cuts and shifts in aid threaten populations that depend on aid for survival, even as they open spaces to rethink models long tied to donor priorities.

There Has Been Progress, But It's Not Enough

Over the past two decades, the discourse around food systems has evolved. Once dismissed as the domain of agriculture ministries or nutritionists, food systems are now recognized as complex, interconnected arenas that touch on health, climate, and inclusion (IPESFOOD, 2015; HLPE, 2017). Reports now highlight the importance of inclusive governance, agroecological transitions, territorial markets, school meals, and Indigenous knowledge (McKeon, 2015; HLPE, 2019; IPBES, 2019; WFP, 2020; IPES-Food, 2024). Social movements—such as La Vía Campesina (LVC), the Brazilian Landless Workers Movement (MST), and additionally, Indigenous peoples-led movements—have long made this case. Their visions have shaped international frameworks

and introduced ideas once considered radical into mainstream policy (HLPE, 2019; IPBES, 2019).

Academics have long worked in parallel with—and often ahead of—policy circles in exposing the structural dynamics of food systems. Over the past few decades, a growing body of research (discussed in the following chapter, Reclaiming Power in Food Systems) has shown how power operates: through corporate concentration (IPES-Food, 2017; Clapp, 2021; Howard, 2021), the extraction of value from labor and nature (Patel & Moore, 2017), the marginalization of alternative knowledge systems (Vijayan et al., 2022), and the narratives that justify these patterns (Anderson, 2024). What began in critical agrarian studies and political ecology has now begun to shape food policy debates more broadly, although long-dominant food policy paradigms continue to endure (McMichael, 2013).

Calls for food systems transformation have multiplied in recent years—but many of these proposals fall short of confronting the forces that prevent transformation, or they co-opt concepts originating in social movements or traditional and community based practices, neutralizing these concepts to the extent that they reinforce the status quo (Clapp, Noyes, & Grant, 2021; Canfield, Anderson, & McMichael, 2021). While some actors are pushing for real change, too many efforts remain stuck—trapped by institutional caution, political risk, or an unwillingness to disrupt entrenched power. In some cases, this hesitation is understandable: challenging dominant interests can come at a cost. But in other cases, avoiding power has become a convenient strategy—technical, politically acceptable, and easy to fund, yet ultimately incapable of shifting the structures that drive inequality, food insecurity, and ecosystem destruction (IPES-Food, 2016; Béné et al., 2024).

And the results speak for themselves: we were promised transformation but instead we got pilot projects.

Tracing Power in Food Systems: Frameworks, Movements, and Evidence

Scholars, experts, and organizations have long examined the political economy of food systems and the role of power within them. The International Panel of Experts on Sustainable Food Systems (IPES-Food) has been a pioneer in addressing power explicitly and accessibly, producing influential reports, such as "From Uniformity to Diversity" (2016), "Too Big to Feed" (2017), "Smoke and Mirrors" (2022), and "Who's Tipping the Scales" (2023), shaping the thinking of policymakers, funders, and activists alike. Even more formal bodies—like the High Level Panel of Experts (HLPE) of the World Committee on Food Security and Nutrition—have contributed significantly to bringing structural issues into policy processes. Though not always framed explicitly in terms of power, their reports and analyses on nutrition (2017), agroecology (2019), inequalities (2023), and urban food systems (2024) have created space for deeper political reflection.

Considering this body of work, we briefly review three strands of

research and social movement analysis that are especially useful for understanding power in food systems. First, we review analytical frameworks from political science, political ecology, and related fields, which we use instrumentally. Second, we review broader perspectives and frameworks—colonial legacies, the Right to Food, and food sovereignty—that link diagnosis to historical responsibility, legal obligations, and social movements. Third, we review targeted literature on corporate concentration, narratives, and policy processes that show where control accumulates, how discourse narrows options, and why reform stalls.

In the first strand, we draw on multiple analytical frameworks used to examine power in food systems and policy. We do not seek to add yet another framework; instead, we use this literature as guidance to diagnose how power inequities manifest across resources, corporate concentration, governance, and labor—and to anchor the policy pathways that follow in this report. Among the most cited in the political science literature, Gaventa's "power cube" (2006, 2021)— which identifies levels (global/national/local), forms (visible/hidden/invisible), and spaces (closed/invited/claimed) of power—remains foundational and was designed for practitioner planning (Gaventa, 2006, p. 25). Complementing this, Shackleton et al. (2023) synthesize four strands of power analysis, applying this to conservation work: actor-centered, institutional, structural, and discursive.

To address food systems, Baker and Demaio (2016) use Gaventa's levels-forms-spaces framing alongside Clapp and Fuchs' (2009) account of corporate influence via instrumental, structural, and discursive power. Lécuyer et al. (2024) extend the cube to "multiple dimensions," adding expressions of power ("for," "with," "to," "within") and their interconnections, underscoring complexity and linkage across scales.

Taken together, these frameworks are useful yet fragmented and numerous —what Boonstra (2016) calls a "confetti of labels and theories" (cited in Lécuyer et al., 2024, p. 1409).

Second, in our analysis of power in food systems, we consider perspectives and movements that treat power inequities as the root of the problem—such as colonial legacies, the Right to Food, and food sovereignty. This body of research, advocacy, and activism—alongside many other efforts to confront the structural causes of food system failures—traces a trajectory from diagnosing domination, to articulating state obligations, to advancing a political project that clarifies where control lies and how it can be redistributed and democratized.

Colonial legacies endure in multiple ways. Quijano's "coloniality of power" (2000) explains how colonial practices and racialization are continually reworked to sustain elite control—an essential lens for contemporary food-system inequities. Thinkers who consider lived realities in the Global South— such as Josué de Castro (1952); Amartya Sen (1981); Walter D. Mignolo and Catherine E. Walsh; and Arturo Escobar (2012)—have traced how Western colonialism remains entwined with agricultural development and food (in)security. Recent syntheses map how imperial legacies persist throughout time and place (Reynolds and

Qader forthcoming), including through resource grabbing and biopiracy (Shiva, 2016), and through what Liboiron (2021) terms "pollution is colonialism".

These dynamics are also reproduced institutionally, as Western knowledge systems and development orthodoxies shape agendas in bodies such as the United Nations Food and Agriculture Organization (FAO) and CGIAR; Álvarez and Coolsaet (2020) show how over-reliance in Latin America on Western epistemologies reproduces inequitable food and environmental outcomes. These legacies also have military expressions; for instance, the destruction of agricultural land and crops in Gaza demonstrates how force can secure resource control (Fakhri, 2024, p. 16).

The Right to Food frame exposes hunger and malnutrition as outcomes of power relations. Human-rights frameworks provide a legal-political counterweight to productivist framings. The Universal Declaration of Human Rights (United Nations, 1948) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), adopted in by the UN General Assembly in 1966, underpin the Right to Food; in 1999 the Committee on Economic, Social and Cultural Rights, issued in 1999, elaborated on the normative content of the Right to Food, and since 2000 a UN Special Rapporteur has monitored violations and advanced interpretation to include cultural and dignity dimensions. The Right to Food has been defined as regular, permanent, and unrestricted access-directly or by purchase-to adequate food consistent with peoples' cultural traditions, enabling a dignified life free of fear (OHCHR, 2010, p. 2). This rights-lens challenges FAO's (2003) output-and-access definition of food security by imposing duties on states to act beyond charity or narrow productivity targets, though this 2003 framing is a more humanistic approach than that articulated in FAO's first definition of the term, in 1974, which was even more in-line with productivist narratives (Fukuda-Parr 2018).

Food sovereignty has been the key pioneering framework for analyzing and contesting power in food systems, with La Vía Campesina at its core. Founded in 1993 amid increasingly neoliberal global trade reforms, LVC introduced the concept of food sovereignty at the 1996 World Food Summit and has since placed it at the center of its work on global food politics. Through struggles for agrarian reform, equitable access to land, water, and territories, and opposition to commodification, it has influenced both discourse and policy (Claeys & Edelman, 2019; La Vía Campesina, n.d., accessed 12 Aug 2025). Its broad agenda—from land and territories to agroecology, biodiversity, peasant seeds, labor rights, and corporate accountability—continues to affirm peasant-led agroecology as key to ensuring healthy food and ecological balance (La Vía Campesina, n.d., accessed 12 Aug 2025).

Third, we spotlight a few commonly analyzed arenas while recognizing many other strands (e.g., labor, infrastructure, finance) that also shape power.

Corporate concentration research shows how transnational firms shape governance and markets, with harmful effects on access, livelihoods,

and ecology (Fuchs & Clapp, 2009; IPES-Food, 2023; Clapp et al., 2025); sectoral consolidation is documented across seeds, organic foods, and retail (Howard, 2021), extending the food-regime arc from colonial trade to today's "corporate food regime" (Friedmann & McMichael, 1989; McMichael, 2005). Jennifer Clapp has been a leading voice in exposing the consequences of corporate concentration in food systems, most recently through her book *Titans of Industrial Agriculture: How a Few Giant Corporations Came to Dominate the Farm Sector and Why It Matters* (Clapp, 2025) and her recent co-authored paper "Corporate concentration and power matter for agency in food systems" (Clapp et al, 2025), both essential for understanding how control is consolidated and legitimized, and its negative impacts on agency.

Parallel work on **narratives** demonstrates how dominant framings steer solutions—what IPES-Food (2022) calls narrative capture—marginalizing alternatives in food security (Sonnino et al., 2016), "climate-smart" agriculture (Newell & Taylor, 2018), agroecology (Anderson & Maughan, 2018), and "nature-based solutions" (IPES-Food, 2022). In particular, Molly Anderson's *Transforming Food Systems: Narratives of Power* (Anderson, 2024) reveals how dominant narratives—framed around efficiency, modernization, and innovation—reinforce existing power structures, delegitimize alternatives, and must be dismantled and reimagined to enable meaningful systemic transformation.

Finally, governance and policy change research also emphasizes power inequities and exclusion. Policy-process studies explain why reforms stall and bureaucratic incentives, institutional lock-ins, and elite interests bias change toward incrementalism (Resnick & Swinnen, 2023). Rather than being framed as neutral or technocratic (while in reality steeped in power dynamics), governance spaces must be explicitly re-politicized to confront conflict and power directly, making participation a vehicle for inclusion of diverse voices and transformation rather than depoliticization (Duncan, 2016; Duncan & Claeys, 2018). Multistakeholder governance—despite its inclusive veneer—often erases power imbalances and undermines democratic accountability (McKeon, 2017; Gleckman, 2018; Canfield, Duncan & Claeys, 2021).

Our work in this report builds on theirs—and on many others cited throughout this document—while aiming to go a step further: to make the structural analysis of power visible and actionable through concrete policy proposals. The recommendations in this report are global in scope, but attentive to difference: we recognize that power operates differently across regions and contexts, and that the pathways to transformation must reflect that diversity.

Power, Food, and the Need for Bold Proposals

This report was developed through a year-long collaboration at THE NEW INSTITUTE in Hamburg, Germany, where a group of eight scholars and practitioners came together not just to critique food systems, but to propose policy pathways and solutions to the power inequities that shape these systems. From September 2024 to June 2025, some of us spent several months in residence at THE NEW INSTITUTE, while

others joined for shorter periods of time, contributing in different ways to a collaborative process rooted in exchange, experimentation, disagreement, and creativity.

We also benefitted from collaboration with our Advisory Committee, which convened experts from the United Nations Development Programme (UNDP), the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD), Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), the World Wide Fund for Nature (WWF), the Biovision Foundation, the Agroecology Coalition, the International Union for Conservation of Nature (IUCN), Slow Food International, EIT Food, CARE, the Think Tank for Sustainability (TMG), and other partners. Their contributions and feedback helped test our strategic direction, strengthen proposals, and refine a transformative agenda. Each chapter of the forthcoming book—the basis for the briefs in this report—was reviewed by external experts, who provided substantive and organizational feedback that was incorporated in finalizing this document. The report also draws on inputs from the work on food and power carried out by report co-editor and author José Luis Chicoma in his work with UNDP, developed in collaboration with Lou Lécuyer.

We were supported by an extraordinary team at THE NEW INSTITUTE—in management, coordination, and media—who made it possible for us to think boldly and act collectively, and who encouraged us to be daring in our proposals to address power inequities in food systems.

Our team of scholars and practitioners experienced shared frustration: we were tired of marginal policy proposals, technical fixes, and apolitical blueprints. We also noted a gap in much critical academic analysis, which, though crucial and increasingly influential, often precludes concrete policy proposals. Across sectors, disciplines, and regions, we saw the same patterns—concentration of power, erasure of alternatives, co-optation of language, and the sidelining of justice. We didn't all agree on everything—and we certainly didn't all feel the same level of frustration. But we agreed on one fundamental point: any serious transformation of food systems requires a redistribution of power—of voice, of resources, and of authority—and that this must be included in specific policy proposals.

To that end, this report offers specific, sectoral proposals to confront power asymmetries across food systems, from agroecology to neglected and underutilized species, from aquatic foods to nutrition and seeds, from supply chains to governance. It is written for those working on food systems in any context—policymakers, practitioners, funders, researchers—because all food systems work is, inherently, work on power, even when it is not recognized as such. And because too many debates about improving food systems remain stuck in minor tweaks and technical solutions, our goal is to expand the space for real, structural change. We believe that, regardless of our roles or institutional positions, we can all be more courageous and abandon timid solutions in favor of bold ones. In this report, each chapter and brief follows a common structure— offering diagnosis, power analysis, vision, and concrete policy recommendations—but authors have

applied power analyses and concepts that best fit their perspectives and methods of analyzing their respective sectors.

The full body of work we developed in Hamburg will be published in a forthcoming book. That book will provide deeper detail on the diagnoses, analyses of power inequities, visions, and policy pathways that each of the participating scholars and practitioners contributed across the different domains. While this report distills the main findings, the book will offer a more comprehensive analysis and expanded explanations of the recommendations—an invitation to engage more deeply with the ideas and debates that shaped our collaboration.

We have not attempted to cover every issue related to food systems in our work here. Topics like trade, water governance, or livestock production—which are also deeply entangled with power asymmetries—remain beyond the specific focus of this report. But we have chosen to center issues that offer critical leverage points for real change. Rather than present a comprehensive map, we offer a set of interventions that we hope will sharpen the conversation and embolden action.

The report begins with a chapter-length analysis of power in food systems, followed by seven shorter briefs on specific sectors. We begin by tracing the architecture of power that shapes what we eat and how and by whom it is grown and harvested. In that first chapter, *Power in Food Systems Transformation*, José Luis Chicoma and Kristin Reynolds lay out the core approach that runs through the report: an analysis of how power asymmetries—rooted in unequal access to resources, exclusive governance, flawed democratic processes, and high corporate concentration—undermine equity, sustainability, and nutrition. This chapter maps the forces that must be confronted for meaningful transformation and outlines four key areas of intervention: reclaiming control and ownership of resources; rebalancing power among actors; guaranteeing food access through diverse market, public, and community mechanisms; and exposing power dynamics more clearly in narratives and policy debates.

In Chapter 2, Reclaiming Agriculture: Unveiling the Transformative Potential of Agroecology, María Mideros' brief pushes beyond the technical narratives of agroecology to explore its transformative potential. She challenges the deep-rooted power structures that hinder agroecology's systemic integration and calls for a bold rethinking of food, land, markets, and justice.

Turning to the ocean in Chapter 3, Navigating a Blue Future: Reimagining Aquatic Food Systems, a brief by Nicolás Rovegno, proposes a **new framework for blue food transformation** grounded in food sovereignty, biodiversity conservation, and marine sustainability. Like agroecology, this vision challenges dominant models of industrial aquaculture and extractive fisheries.

Chapter 4, a brief on Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems, by José Luis Chicoma, centers the **often-overlooked infrastructure that feeds billions**—traditional markets, informal traders, and decentralized supply chains. It argues that recognizing and strengthening these systems is essential

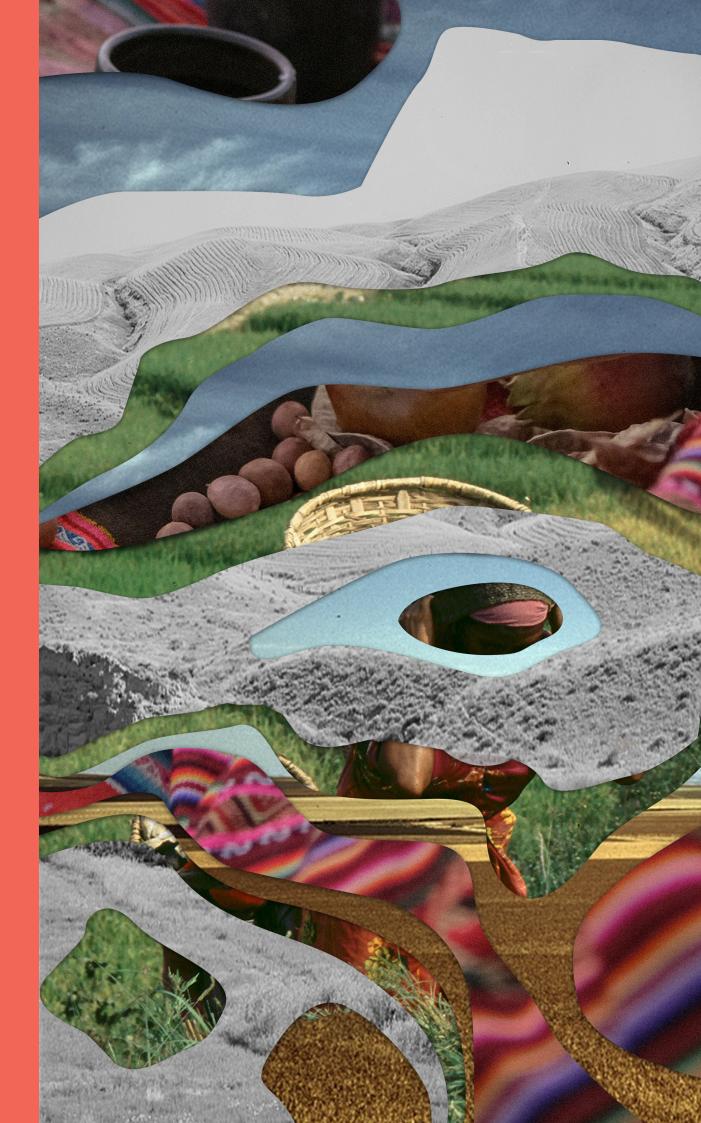
to reducing corporate concentration and building diverse food systems that ensure access to good food for all.

In Chapter 5, Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation, Emma McDonell's brief examines the complexities and contradictions of turning biodiverse, locally important crops into global commodities. Drawing on multiple examples—including quinoa— McDonell reveals the risks of market-driven NUS promotion and calls for more context-specific strategies that prioritize equity, local markets, and food sovereignty.

Chapter 6, Democratizing Diets: Strategies to Make Biodiverse, Healthy Diets Affordable and Accessible, a brief by Chris Vogliano, challenges the dominant discourse on nutrition. Vogliano critiques how power dynamics shape dietary guidelines and food assistance programs and argues for integrating biodiversity into public food systems—particularly through school meals—to build healthier, fairer, and more sustainable diets.

In Chapter 7, Power Shift: Radical Restructuring of Food Systems Governance, a brief by Jessica Duncan, takes us into the contested arena of **global food governance**. She critically unpacks who gets to decide the future of food, why multistakeholder platforms often entrench existing hierarchies, and how more democratic governance can emerge through civil society, social movements, and institutional reform.

And in Chapter 8, Farmers First: Reclaiming Seed Sovereignty for Biodiverse Value Chains, Sayed Azam-Ali explores how current seed regimes constrain diversity and farmer agency in his brief, envisioning a future where seed systems foster biodiversity, resilience, and justice from the ground up.



Reclaiming Power in Food Systems: From Inequities to Transformative Policies

José Luis Chicoma and Kristin Reynolds

This chapter approaches power through the lens of inequities—systemic imbalances that are deeply structured in the organization of food systems.

The **chapter unfolds in four parts**. After the introduction, we begin by examining power inequities across four areas: access to and control of resources; governance and political institutions; corporate concentration across supply chains; and the conditions of labor. We then articulate a vision of transformation, one that shifts the underlying distribution of power toward equity and ecological sustainability. Finally, we advance recommendations centered on four imperatives: redistributing access, control, and ownership of resources; rebalancing power between actors through stronger regulations and inclusive institutions; reclaiming control over food access across public, market, and community systems; and reorienting policy discourse and narratives to enable genuine transformation.

How Actors Deal with Power in Food Systems

The main actors working in food systems deal with power every day. Most are not naïve. On the contrary, many are skilled at navigating and negotiating complex power relations.

Politicians and policymakers grapple with power constantly. Negotiations within food systems—over public investment priorities, trade agreements, subsidies, and taxes—are shaped by competing interests, entrenched lobbies, and political trade-offs. Even the most committed policymakers and government champions—those pushing hard for food systems transformation—must negotiate with powerful actors, build coalitions to counter them, and, at the same time, be careful

not to alienate them (Swinburn, 2019; Baker et al., 2021). In many political contexts, simply naming power carries risks they cannot afford.

Global and regional development banks have long exercised significant power over low- and middle-income countries through loans and the conditions attached to them. Structural adjustment reforms are the starkest example, in which loans were tied to the imposition of neoliberal agendas (Weis, 2007; Clapp, 2020). At the same time, these banks are themselves shaped by their major shareholders—the most powerful states—whose interests strongly influence their strategies and recommendations (McMichael, 2014).

United Nations agencies face a different dilemma: many are mandated to promote ambitious development goals but must constantly navigate the power of the governments that both fund and host their programs, while managing threats of funding cuts, diplomatic pressure, and the influence of global interest groups defending their agendas in different ways. They balance advancing bold agendas with securing buyin from states that can easily block or dilute their efforts (Bernstein, 2017; Baker et al., 2021).

International non-governmental organizations and donors also work daily within power relations. Some focus on influencing governments or multilateral institutions, others choose to collaborate with corporations, and still others side squarely with social movements. Their strategies range from confrontation to partnership (Schilpzand et al., 2012; Claeys, 2019).

Social movements, by contrast, often approach power more directly. Their aim is to disrupt entrenched hierarchies and push for systemic change—whether through land struggles or campaigns for food sovereignty. Unlike institutions that must tread carefully, these movements seek to alter the rules of the game (Claeys, 2019; Cruz, 2023).

These are only a few of the relevant global actors. At **national and local levels**, countless others—farmers' associations, municipal authorities, cooperatives—also navigate, confront, and/or reproduce power in their daily work. Even well-intentioned **experts in think tanks or academia** adopt different strategies (Swinburn, 2019). Many avoid discussing power openly, resorting instead to safer language such as "multi-stakeholder platforms" or "policy coherence" (Baker et al., 2021).

Thus, food systems actors engage with power regularly, in different ways: some challenge power structures directly, others accommodate them, and many find ways to sidestep discussing power altogether. The central question we pose here is how to respond to power, and power inequity in particular, in policy and advocacy work seeking food systems transformation. Confront power? Resist it? Ignore it? Work around it? These are valid and legitimate dilemmas, since everyone faces different challenges and constraints when working to promote change. In many cases, it is understandable that, instead of flipping the table, actors try to move what is within reach. But, at the end of the day, one thing is clear: relatively few have been willing to risk naming and opposing power openly (McMichael, 2014; Swinburn, 2019).

However, avoidance has a cost for all actors. Failing to address and confront power reproduces the very conditions that food systems transformation work is meant to undo: inequality, ecological degradation, and malnutrition. It leaves intact the forces that create these outcomes and continues to push alternative voices to the margins (Swinburn, 2019; Baker et al., 2021; McMichael, 2014). As critical analyses of food systems have long demonstrated, these conditions are not the result of insufficient production—as dominant narratives suggest—but of political decisions that skew access and distribution toward those with the greatest political and economic (and often military) power (Sen, 1981; Fakhri, 2024; IPES-Food, 2025). Yet such insights are too often ignored or sidelined in food policy.

This report seeks to avoid this omission, directly addressing and confronting power—and specifically power inequities—in its analyses of food systems and its policy recommendations for improving food access, sustainability, equity, and self-determination.

What Do We Mean by Power Inequities?

In this report, **power inequities** refer to the uneven nature of political agency, economic strength, market influence, and other resources held by communities, social groups, sectors, and governments.

In this framing chapter and the chapter briefs that follow, we distinguish between inequity (what the World Health Organization (WHO) refers to as "avoidable differences," WHO, n.d.), inequality (lack of parallel resources), asymmetry (uneven levels, as discussed in the political science literature), and dynamics (distribution, often described as "uneven").

Our focus is on power inequities in food systems and policy — avoidable differences (as proposed by the WHO) that result from explicit or implicit decision-making. We use "inequities" rather than "inequalities" to stress that these differences cannot be solved by simply strengthening all actors equally: the most powerful contemporary global entities—such as corporations and Global North governments in the context of geopolitical dynamics —already possess disproportionate resources and influence in food systems rooted in historical realities touched upon in this chapter.

Not addressing power inequities directly in food systems policy, and opting for often more politically conservative approaches, **continues to perpetuate the status quo while misleadingly presenting reform as structural change** (IPES-Food 2022; Anderson 2024). Perhaps worse, status quo food systems "solutions," such as economically undermining individual or collective farming communities' abilities to feed themselves and then only addressing food insecurity with food aid, do not necessarily improve the long-term livelihoods, sustainability, and food access for the most marginalized people and communities. Further, when policies and policymakers fail to meaningfully attempt to address the structural realities that would help create a system of food security, equity, and ecological health, they often lose the trust

Areas of Analysis of Power Inequities in Food Systems

1. UNEQUAL ACCESS, OWNERSHIP AND CONTROL OVER RESOURCES

Natural resources: concentrated control

Innovation and technology: corporate control and sidelined alternatives

Finance as a driver of exclusion

Distorted food **infrastructure** priorities

2. EXCLUSIVE GOVERNANCE

Neoliberal state retreat

Captured **democratic** institutions

Privileged knowledge systems

Fractured **geopolitics and cooperation**

3. WIDESPREAD MARKET CONCENTRATION

Concentration across food system activities

The **historical** foundations of concentration

Corporate logics prevail

4. PRECARIOUS AND UNDERVALUED LABOR

Exploitation

Precarity and underpayment

Gendered and intersection inequities

Migration and labor vulnerability

of those outside of the centers of power in government, causing civil society members to disengage from policy, with attendant negative outcomes for democracy (Rainie and Perrin, 2019; OECD 2022).

Confronting power inequities directly in food systems policymaking is therefore central to work for more equitable and sustainable food systems, and central to this report. Our **analysis builds on a long line of scholarship and advocacy**, which is briefly covered in the introduction to this report, that has revealed these inequities: in the legacies of colonialism, in movements for food sovereignty, in the articulation of the Right to Food, in research on corporate concentration and its impacts, and in narratives that normalize inequality under the banners of efficiency, modernization, and market inevitability.

What emerges from these bodies of work is not only a sharper understanding of how power operates in food systems, but also a shared emphasis on the structures and dominant discourses that reproduce inequities. This work highlights the fact that technical fixes or marginal changes are insufficient if underlying systems of exclusion remain intact. Building on these insights, the following section analyzes how power inequities play out in concrete domains of the food system and what it would take to redress these inequities.

Part I: Areas of Analysis of Power Inequities

This section examines major expressions of power inequities in food systems that are both systemic in origin and highly tangible in their effects. Rather than attempting an exhaustive catalogue of food systems inequities, it highlights a set of recurring patterns that cut across regions and sectors, shaping who controls resources, who participates in decision-making, how markets are structured, and how labor and workers are valued and treated. These patterns are interconnected and mutually reinforcing. Understanding them helps identify where well-designed interventions could lead to broader, systemic change.

Power Inequities	Specific Themes
1. Unequal access, ownership and control over resources	Natural resources: concentrated control
	Innovation and technology: corporate control and sidelined alternatives
	Finance as a driver of exclusion
	Distorted food infrastructure priorities

Power Inequities	Specific Themes
2. Exclusive governance	Neoliberal state retreat
	Captured democratic institutions
	Privileged knowledge systems
	Fractured geopolitics and
3. Widespread market concentration	Concentration across food system activities
	The historical foundations of concentration
	Corporate logics prevail
4. Precarious and undervalued	Exploitation
labor	Precarity and underpayment
	Gendered and intersection inequities
	Migration and labor vulnerability

Power Inequity 1: Unequal Access to Resources

Access, control, and ownership over resources are at the core of how power operates in food systems. From land, water, oceans, and seeds to finance, technology, and infrastructure, access is deeply unequal and shaped by political and economic interests. Rather than being treated as essential for human well-being and ecological sustainability, these resources are too often governed as assets to be owned, traded, or leveraged—concentrating power in the hands of a few while constraining the self-determination of many.

Resource Power Inequities	Specific Themes
Natural resources: concentrated ownership and control	Root and ongoing causes: colonialism and neocolonialism; natural resource appropriation; gendered and knowledge hierarchies
	Contemporary commodification and concentration

Resource Power Inequities	Specific Themes
Innovation and technology:	Who defines innovation?
corporate control and sidelined alternatives	Ownership of technologies
	Narrative capture sidelines alternatives
Finance as a driver of exclusion	Lack of access to credit and financial services
	Public finance that undermines diversity
	Unequal access to climate finance and food-aid distortions
	Food as a speculative asset
Distorted food infrastructure priorities	Skewed priorities in public investment
	Erosion of public responsibility
	Marginalization of traditional and informal systems

a. Natural Resources: Concentrated Ownership and Control

Ownership and control over — not mere access to — natural resources¹ (land, water, oceans, forests, seeds, biodiversity) set the terms of production and exclusion in food systems. Inequities in this control are rooted in the political and economic dominance of some groups and nation-states over others.

The roots of power inequities pertaining to natural resources lie in colonial and neocolonial relations: colonialism—past and present—has dispossessed Indigenous and local communities of land and water, and imposed Western, often industrial, regimes for land, water, fisheries, and agriculture (Rodney, 1972/2018; Smith, 2021; Reynolds and Qader, forthcoming). These dynamics persist tangibly, such as through biopiracy (Shiva, 2016), resource "grabbing" (discussed below), and other forms of appropriation.

1 We note critiques of the term "natural resources" as anthropocentric wherein "nature" is construed as having a primary function for human use (Whyte, 2017). While we give credence to such critiques, particularly as they align with work to diffuse knowledge hierarchies as a form of power, we use the "resources" terminology here in the interest of legibility in current mainstream policy discourses.

Gendered hierarchies—often colonial-era patriarchal impositions rather than indigenous traditions—specifically limit women's control over land, water, seeds, and natural resource decision-making (Agarwal, 1994). One outcome of such gendered hierarchies is inequitable tenure, such as the fact that women own only about one-fifth of land globally (United Nations Convention to Combat Desertification, 2022). Barriers to finance and technology, in addition to inheritance and property norms, again often colonial legacies, further restrict women's ownership and decision-making when it comes to natural resources (Agarwal, 1992; UN-Women, 2014). Colonial and neocolonial power relations pertaining to natural resources also persist in less visible forms, including food systems and natural resource knowledge hierarchies, as discussed below.

These historical inequities are exacerbated through contemporary **natural resource "grabbing"**—large-scale acquisitions of land, water, and marine spaces by highly capitalized investors or foreign governments, often tied to export-oriented food and biofuel production, as well as industrial, fishing, or hydropower projects (Borras & Franco, 2011; Land Matrix, n.d). Local and regional governments and communities have frequently been unable to resist such appropriation under global pressures and prevailing narratives of "efficient" resource use in historical and contemporary contexts (De Schutter, 2011).

In more contemporary time frames, land, water, forests, oceans, and seeds are both commodified and concentrated through privatization, concessions, policies favoring foreign direct investment, and intellectual property regimes, while both collective and customary tenure systems and the individual rights of small-scale producers are often ignored or undermined. This leaves communities, farmers, and fishers vulnerable to eviction, exclusion, or the loss of control over critical resources, including coastal fisheries and marine ecosystems.

Commodification of natural resources operates through concentration and state-controlled tenure and property regimes (e.g., property rights, titling), and through powerful economies shaping trade rules and international relations to their advantage (Borras & Franco, 2012; De Schutter, 2011; Liu et al., 2014; Fairhead et al., 2012; Franco et al., 2013; van der Ploeg, 2011; Wise, 2009; Gálvez, 2018).

Concentration and extractivism drive commodification across land, water, seeds, biodiversity, and knowledge. Corporations have long leveraged political influence to expand extraction—backing military coups (Chapman, 2022), pushing water privatization (Galiani et al., 2005), and appropriating plants used in Indigenous and traditional medicine. Inequitable trade agreements then lock in these dynamics as powerful states set the terms (UNEP, 2011), producing "accumulation by dispossession," as environmental wealth is transferred from weaker to stronger economies (Harvey, 2017).

The patterns discussed here lead to a host of negative food systems outcomes, including overexploitation, marginalization, and financial speculation. For instance, tenure insecurity, which allows rented land to be transferred without users' consent, and water "scarcity" often

reflects political and social inequities in use rights rather than any physical lack (Falkenmark, 2013). Lack of long-term land tenure and local or public ownership of water infrastructure are associated with environmental degradation (Fearnside, 2001; Tseng et al., 2021; Marks et al., 2013). Erosion of communities' control over seeds since the Green Revolution, which has been accelerated by genetic engineering and intellectual property restrictions, limits farmers' self-determination in food systems.

Together these dynamics drive food insecurity and ecological crises—climate change, soil depletion, biodiversity loss, collapsing fisheries, and water scarcity—which are structural outcomes of extractive, industrial food systems. Confronting them requires centering the most affected communities and small-scale producers, especially in the Global South, as well as empowering actors most aligned with sustainable practices and equitable food access.

b. Innovation and Technology: Corporate Control, Narrative Capture, and Sidelined Alternatives

"Innovation" is not lacking; the issue is who defines it and whose approaches are legitimized and funded (Anderson & Maughan, 2021). Today's tech palette—genetically engineered seeds, lab-grown and industrial "alternative proteins," controlled-environment agriculture, and AI—joins a long lineage of technologies (precision agriculture, Green Revolution hybrids, synthetic inputs, motorization, the plow) that can raise productivity yet carry social and ecological costs (Danbom, 1979). The power problem again lies in ownership and control: capital-intensive technologies sit in private and multinational portfolios and are marketed as silver-bullet fixes for everything from urban food insecurity to climate change (Newell & Taylor 2018; IPES-Food 2022), crowding out plural, context-specific pathways.

Narrative capture reinforces this hierarchy: powerful actors brand their techno-solutions as "innovative," while low-input, longstanding knowledge systems—technologies in their own right, like the ones present in complex systems as agroecology—are sidelined as inadequate or merely "traditional" (Daniel, 2013). The mandate to "scale up" as the singular route to sustainability reproduces productivist growth logics; even when institutions invoke "local knowledge," it is often instrumentalized (Warren, 1991), and colonial stereotypes of traditional, local, and/or community based knowledge as backward and devoid of intellect persist. (Treakle & Krell, 2014).

c. Finance as a Driver of Exclusion

Financial flows in food systems reflect deep power inequities: credit and insurance remain inaccessible to those who need them most; public funds and subsidies disproportionately reward industrial models;

climate finance prioritizes scale over diversity; and speculative capital destabilizes markets—all within a broader shift toward the financialization of nature (Ouma et al., 2018) and of food systems (Clapp et al., 2018), which recasts ecosystems and food as assets for investment and accumulation.

Small-scale farmers, fishers, traders, processors, Indigenous communities—and in particular women within these systems—face systemic exclusion from credit and insurance: collateral and land-title requirements and risk-management products designed for large operations leave them exposed to climate and market shocks (IPES-Food, 2021b; Clapp & Isakson, 2023; FAO & IPA, 2024; Farman et al., 2024). Public finance is often underfunded or oriented toward commercial agriculture, and access policies either fail to include the most excluded or are captured by politically connected actors (IPES-Food, 2021b). The result is reliance on exploitative informal debt, deepening dependency and constraining investment in quality, innovation, and sustainable practices (Farman et al., 2024).

Public subsidies and investment overwhelmingly favor industrial, large-scale actors—via fertilizer/biofuel subsidies and public research—making inputs for processed foods cheaper while underfunding fruits, vegetables, and other nutrient-rich options (Springmann & Freund, 2022; Reyes-García et al., 2025). Meanwhile, subsidies, procurement, and capital rarely reach agroecological producers, small-scale fisheries, or traditional markets; public money instead steers production toward export and luxury markets (Vorley et al., 2012; IPES-Food, 2021a). The result is a distorted playing field that entrenches an unfair cost advantage for industrial models, undermines diverse local systems, and is compounded by tax exemptions, loopholes, and financial leakage that shrink the fiscal space for equitable, sustainable food systems (Reyes-García et al., 2025).

Climate finance could drive a sustainable food system transition, but its current design often reinforces inequities by favoring large, easily quantified projects—monoculture reforestation and carbon offsets—while sidelining agroecology and community-based systems (Palmer, 2016; Chiriac et al., 2020). The same logic appears in food aid, which channels surplus commodities to marginalized locations, rather than investing in local production (Ferguson & Kepe, 2011), diverting funds from approaches that restore ecosystems, secure livelihoods, and sustain healthy local food.

Powerful financial institutions, hedge funds, and commodity traders shape global food markets through speculation and futures trading, amplifying price volatility that disproportionately harms low-income consumers and small producers (Isakson, 2014; Clapp, 2019; IPES-Food, 2021b; Clapp, 2022). This financialization channels capital into extractive monocultures and recasts **food as a speculative asset** rather than something meant to nourish people (Clapp & Isakson, 2018).

d. Distorted Food Infrastructure Priorities

Control over infrastructure—including roads, ports, and cold storage—sets the terms for participation in food supply chains: those without it face distress sales at low prices, while privileged actors capture disproportionate value. These are political choices: investments shaped by neoliberal reforms, trade agreements, and "modernization" programs channel infrastructure toward industrial/export chains, entrenching dependence and excluding territorial food systems (see brief Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems).

Public infrastructure investment skews toward export corridors, industrial supply chains, and urban hubs, while small producers, processors, traders, and territorial markets—crucial for local food security—face deteriorating or absent facilities (HLPE, 2023; IPES-Food, 2024). These choices create path dependencies—large-scale irrigation and export-oriented cold chains—that lock in monocultures and hinder diversification (including neglected and underutilized species) due to inadequate processing, storage, refrigeration, and transport (see brief Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation).

Neoliberal retrenchment has hollowed out the state's capacity to build and maintain infrastructure for domestic and territorial food systems (Mkandawire, 2001; De Schutter, 2014; IPES-Food, 2023a). Privatization and deregulation have shifted strategic assets—ports, highways, energy grids—toward private, trade-oriented priorities (De Schutter, 2014; IPES-Food, 2023b), shrinking the very notion of infrastructure as a public good and weakening governments' ability to balance competitiveness with equitable food access.

Traditional and informal infrastructures—local markets and small-scale processing—are routinely dismissed as "inefficient," yet they are essential for feeding vulnerable populations and sustaining diversified production (Simon, 2007; Kay, 2016; IPES-Food, 2024a). Modernization narratives tied to industrial agriculture, industrial fisheries, and supermarkets lead policymakers to neglect or dismantle these systems, undermining affordability, access, and nutrition (IPES-Food, 2024a) (see brief Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems).

Power Inequity 2: Governance and Politics— The Architecture of Exclusion

Power in food systems is embedded in the very structures of governance and institutions that shape how decisions are made, by whom, and in whose interest. Governance is not merely about procedures—it is the terrain where power is accumulated, contested, and legitimized. As Clapp (2020) and Duncan and Claeys (2020) have argued, food governance must be understood as deeply political, shaped by unequal relations of power across state, corporate, and civil society actors.

The power inequities that characterize governance in food systems—both local, national and global—are far from incidental. They are rooted in weak state capacities, neoliberal reforms, and captured democracies that prioritize market-oriented approaches, reinforced by privileged knowledge systems and, today, made even more difficult by geopolitical challenges.

Governance Power Inequities	Specific Themes
Neoliberal state retreat	Low capacity of government
	Prioritization of industrial and export-oriented supply chains
Captured democratic institutions	Corporate lobbying, campaign finance, and revolving doors result in regulatory and policy capture
	Marginalization of essential actors
Privileged knowledge systems	Western paradigms domi- nate food governance and decision-making
Fractured geopolitics and cooperation	Trade tensions, wars and conflicts, food as a weap-on, fracture in global aid architecture

a. Neoliberal State Retreat

Over the past four decades, neoliberal reforms have hollowed out the capacity of states to act in the public interest in food systems, shifting their role from providers of public goods to facilitators of market growth (McKeon, 2015; Harvey, 2005; Peck & Tickell, 2002). This has meant the systematic withdrawal of the state from critical functions: regulating corporate power, ensuring equitable access to food, investing in infrastructure for domestic markets, and supporting small-scale producers. The result is a state apparatus that often lacks the capacity—or the political will—to intervene meaningfully in shaping food systems for the public good. States increasingly rely on the private sector to "deliver" food security through market mechanisms.

This shift has granted corporate actors disproportionate influence, normalizing the idea that food systems should be governed by the logic of competitiveness, productivity, and private investment. Multilateral institutions—such as the World Bank, the International Monetary Fund (IMF), and the World Trade Organization (WTO) —have long promoted

these paradigms, embedding neoliberal prescriptions into development aid, trade rules, and policy recommendations across the Global South (Bello, 2009). In some cases, **weakened governments have increasingly outsourced** major policy functions to the "Big Four" accounting and professional services firms—Deloitte, PricewaterhouseCoopers (PwC), Ernst & Young (EY), and Klynveld Peat Marwick Goerdeler (KPMG)—and the "Big Three" consultancies—McKinsey & Company, Boston Consulting Group (BCG), and Bain & Company. Their influence is not neutral: they promote market-oriented frameworks centered on efficiency, privatization, and competitiveness (Sturdy, 2021), which marginalize social and ecological goals and limit the space for transformative alternatives.

b. Captured Democratic Institutions

Democratic institutions have been eroded by corporate lobbying, opaque campaign financing, and revolving doors between government and industry—processes intensified by neoliberal reforms. These dynamics have turned economic power into political influence and narrowed the scope of policy debate (Fuchs et al., 2011; Clapp & Fuchs, 2009). The result is a governance landscape where corporate influence extends far beyond markets, permeating regulatory and policymaking spaces, legal frameworks, and public investment decisions.

These dynamics do not simply bias decision-making—they **structurally exclude key actors**, particularly small-scale producers, Indigenous communities, and food workers whose livelihoods are anchored both in biodiversity-rich, territorial food systems, as well as industrial food systems (IPES-Food, 2016; FAO, 2019).

This corporate capture and marginalization of key actors operates on both national and global levels. Domestically, ministries tied to economy, trade, and industry often overpower those responsible for public health, nutrition, or environmental protection—creating an imbalance that privileges export and industrial sectors over public welfare. Technocratic governance structures, far from being neutral, frequently reflect and reinforce corporate priorities, sidelining the knowledge, needs, and rights of the most excluded. At the global level, while the Committee on World Food Security (CFS) (a UN-supported body bringing together actors in government, institutions, NGOs, and civil society) offers meaningful spaces for civil society, multi-stakeholder platforms have increasingly been critiqued as parallel arenas that, under the guise of inclusivity, amplify corporate influence and reproduce existing power inequities (see brief *Power Shift: Radical Restructuring of Food Systems Governance*).

c. Privileged Knowledge Systems

Despite some inclusion efforts, food system governance continues to privilege Western knowledge, sidelining local, Indigenous, and

traditional perspectives (see brief Democratizing Diets: Strategies to Make Biodiverse, Healthy Diets Affordable and Accessible). This exclusion restricts participation—especially of women and Indigenous Peoples—and undermines the value of Traditional Ecological Knowledge (TEK), which has proven to strengthen management and biodiversity, alone or when combined with Western science (see brief Navigating a Blue Future: Reimagining Aquatic Food Systems). Such dynamics reinforce power inequities by determining whose knowledge counts and requiring fluency in, and willingness to engage with, Western systems in order to participate in policy processes.

d. Current Context: Fractured Geopolitics and Cooperation

The power asymmetries that define food systems governance today cannot be understood in isolation from the shifting political landscape in which they operate. The early 21st century has been marked by intensifying geopolitical tensions and authoritarianism (see Scoones et al., 2021), and the fragmentation of multilateral institutions—all of which constrain the ability of states and global bodies to govern food systems in the public interest.

As geopolitical instability deepens, states are pressured to prioritize short-term national security and economic protectionism over inclusive food policies. First, trade tensions have injected chronic volatility into food supply chains, destabilizing markets, and compromising the reliability of agricultural exports and imports. Second, public health crises and wars have exposed the fragility of globalized food systems, such as Russia's 2022 invasion of Ukraine, which disrupted grain and fertilizer exports and heightened hunger risks in import-dependent regions like the Middle East and sub-Saharan Africa. Third, food is increasingly weaponized as a geopolitical instrument, with one of the most egregious current examples being Israel's siege of Gaza that began in 2023.

This geopolitical volatility is unfolding just as the **global aid architecture fractures**: major donors, such as the US Agency for International Development (USAID), are downsizing programs, and UN agencies face severe budget cuts. These shifts endanger millions who rely on food assistance but also expose how aid has historically promoted export-oriented, market-driven models aligned with donor priorities. At the same time, these disruptions create an opportunity to reorient aid toward more equitable territorial food systems.

The current wave of global disruptions suggests a deeper shift away from the post-Cold War liberal consensus—founded on multilateral cooperation and the alignment of markets with democracy—toward a multipolar, conflict-prone order where food and agriculture are increasingly entangled in geopolitical struggles (Bello, 2009; Clapp, 2020). This consensus fostered some global collaboration on issues such as the Sustainable Development Goals (SDGs) and climate change, even

if progress was slow and inadequate. Yet, at its core, this paradigm rested on a neoliberal faith in markets, privatization, and export-led growth, narrowing the range of legitimate policy options and sidelining more transformative alternatives (Peck & Tickell, 2002).

Power Inequity 3: Widespread Market Concentration

One of the clearest and most persistent manifestations of power inequities in food systems is the **extreme concentration of corporate control across the entire food supply chain**. From the inputs that fuel industrial agriculture to the global trade routes that move food across continents, a handful of powerful firms exert outsized influence over what is grown, how it is processed, and what ends up on supermarket shelves and restaurant menus.

Market Concentration Power Inequities	Specific Themes
Widespread market concentration	Commonly analyzed activities: agrochemicals, grain trade, processing, retail
	Less examined areas: fishing and aquaculture, logistics and shipping, asset managers and funds, technological firms, digital advertising
Historic foundations of	Commodification and colonialism
concentration	Green Revolution and food aid
	Trade liberalization and structural adjustment programs
Corporate logics prevail	Negative outcomes: Homogenization of food production and consumption; systemic fragility
	Corporate structures resist change

a. Widespread Market Concentration

This extreme concentration of power is not a hidden phenomenon—it has been extensively documented and is now widely recognized as a defining feature of global food systems. Just four firms control over 60% of the global seed market and 70% of agrochemicals (Clapp et al., 2025; IPES-Food, 2017), while the "ABCD" global traders—ADM,

Bunge, Cargill, and Louis Dreyfus—dominate flows of major grains. Processing is similarly consolidated, with Nestlé, PepsiCo, and Unilever controlling vast global brand portfolios, and retail is concentrated at global, regional, and national scales, from Walmart and Carrefour to dominant domestic chains that shape access to culturally relevant foods (Howard, 2021). But concentration extends far beyond these familiar sectors: poultry breeding stock, cocoa trading, and bananas are equally dominated, while national and regional markets — such as soybean imports in China, rice seed sales in Nepal, or grocery retail in Australia — show similarly high levels of capture (Clapp et al., 2025).

Concentration is equally stark in **fisheries and aquaculture**, where a handful of vertically integrated conglomerates control entire value chains—from harvesting to processing, distribution, and even certification. The top 10 seafood companies capture nearly 40% of global revenues, while 13 firms account for 11–16% of total fish catches (WBA, 2019). Through vertical integration, powerful corporations secure raw materials, expand reach, and strengthen bargaining power (OECD, 2010), which drives prices down and forces small-scale fishers into dependency (Crona et al., 2016). They also shape sustainability narratives via private eco-labels and corporate standards, and influence policy forums (see brief *Navigating a Blue Future: Reimagining Aquatic Food Systems*).

It also extends into **logistics and shipping**, where the COVID-19 pandemic revealed how the global food trade has become dependent on a few containerized routes and shipping companies, exposing just how fragile and tightly controlled this infrastructure is. Powerful firms dominate key segments of freight and distribution, from shipping routes and cold chains to inland logistics hubs, exerting increasing influence over how food moves (IPES-Food, 2017; IPES-Food, 2021a).

Corporate concentration is also deepening in sectors that indirectly but decisively shape food systems. In finance, private equity funds and asset managers such as BlackRock and Vanguard are expanding their influence through land acquisitions, commodity speculation, and control of food infrastructure (Clapp, 2019; Clapp, 2022; IPES-Food, 2021a). In technology, consolidation is advancing via digital agriculture platforms, AI-driven precision farming, and proprietary data systems, creating new forms of control that extract value from data, logistics, and supply chain intelligence rather than from production itself (IPES-Food, 2017). A few transnational firms like Google, Meta, and WPP dominate digital advertising, structuring visibility in ways that amplify ultra-processed food brands through paid content and viral campaigns (Scrinis, 2016; Monteiro et al., 2019; IPES-Food, 2020; Matos et al., 2023; Fretes et al., 2025).

b. Historic Foundations of Concentration

Corporate concentration in food systems is rooted in centuries of political and economic processes that **commodified food and centralized**

power in supply chains. Colonialism entrenched this trajectory by appropriating land and labor through plantation systems that privileged export monocultures. Built on slavery and racial hierarchies, these extractive models created enduring structures of accumulation (Mintz, 1985; Beckert, 2014).

In the 20th century, the **Green Revolution** — driven by US foreign policy and philanthropic support—spread hybrid seeds, synthetic fertilizers, and pesticides across the Global South, consolidating corporate control over technology (Perkins, 1997; Shiva, 2000; Patel, 2013). **Food aid**, particularly post-war programs like PL-480, functioned both to offload US agricultural surpluses and to open markets for industrial agriculture abroad. Though presented as humanitarian, they reshaped consumption in the Global South, entrenched dependencies, and paved the way for private-sector dominance (McMichael, 2009; Patel, 2007; Escobar, 2011).

More recently, trade liberalization and structural adjustment programs — often imposed through the IMF and the World Bank — dismantled state-led food systems, cut subsidies, and opened markets to foreign investment. These reforms facilitated corporate consolidation in retail, processing, and distribution while deepening reliance on imports and "privatized" food security (Weis, 2007; Clapp & Fuchs, 2009).

c. Corporate Logics Prevail

Corporate concentration reshapes food systems at every level — structuring markets, prices, supply flows, consumption, and politics. Clapp et al. (2025) highlight three dimensions of this power: firms extract profits by exercising market power, shape material conditions through technologies, labor, and food environments, and influence governance to protect their interests. Taken together, these forms of power translate into the homogenization of food production and consumption and growing systemic fragility.

Concentration drives **homogenization**: global markets reward uniformity—monocultures, standardized processing, and ultra-processed foods—pressuring smallholders into a few commodity crops and sidelining biodiverse systems, which results in ecological erosion and dietary monotony (Khoury et al., 2014; FAO, 2019; Anderson et al., 2021). It also heightens **fragility**: centralized chains in shipping, storage, and inputs amplify shocks from pandemics, conflicts, and extreme weather—seen during COVID-19 and the Ukraine war—causing cascading disruptions, price spikes, and food insecurity in import-dependent countries (Clapp, 2023).

These outcomes are rooted in the very structure of corporate governance, which prioritizes shareholder value, short-term returns, and fiduciary duties to investors. Such imperatives constrain long-term, collective, or ecological commitments, while CSR initiatives and ESG metrics often function as reputational tools rather than structural reforms (IPES-Food, 2017; Capucci, 2018). Corporate philanthropy,

particularly from major agrifood, tech, and finance firms, has funded innovation and emergency response but often promotes narrow technological fixes such as biofortified crops or precision agriculture. In doing so, it sidelines more transformative food systems approaches (Morvaridi, 2012; IPES-Food, 2017; Canfield, 2023; Patel, 2013).

Power Inequity 4: Precarious and Undervalued Labor

Labor in global food systems is marked by a persistent combination of historical legacies and contemporary inequities. Today's food economy is built on "cheap labor"—exploited, precarious, low-paid, and often invisible work embedded in the very design of global supply chains (Patel & Moore, 2017). These dynamics are not incidental; they are embedded in the economic models and governance structures that have shaped food systems over centuries. Understanding labor exploitation and precarity in this broader context requires examining how wage structures, employment patterns, and social hierarchies intersect to sustain a model that benefits from the undervaluation of work — particularly that carried out by marginalized and vulnerable groups.

Labor Power Inequities	Specific Themes
Exploitation	Food systems built on enduring labor exploitation
Precarity and underpayment	Structural reliance on cheap labor
Marginalization, gender, and informality	Women, informal workers, Indigenous Peoples, and other marginalized groups are the lowest-paid, least secure
Migration and labor vulnerability	Low-paid, long-hour roles with limited independent oversight

a. Exploitation

The food system is built on enduring labor exploitation, from slavery and indentured servitude that underpinned colonial agriculture (Mintz, 1985; Carney, 2020) to today's clandestine slavery, wage suppression, unsafe conditions, and gender- and race-based violence that disproportionately affects migrants and marginalized workers (Friedmann, 2005; Holt-Giménez & Harper, 2016; Jha & Yeros, 2023). Although some national policies and UN bodies like the International Labour Organization (ILO) address parts of the problem, agricultural labor policy remains fragmented and unfair; where protections exist, they are rarely enforced, sustaining a system that relies on cheap labor while denying its fundamental role in the global economy (Patel & Moore, 2017).

b. Precarity and Underpayment

Precarity spans seasonal and day labor without guarantees, jobs lacking benefits or grievance channels, and widespread underpayment below living wages — especially in agriculture, fisheries, and processing — leaving workers exposed to volatile demand and sudden income loss (ILO, 2022). Crucially, this is a **structural reliance on cheap labor** in export-oriented, buyer-driven supply chains and concentrated retail, where downward price pressure is offloaded onto the lowest-paid via recruitment systems, migration policies, and subcontracting that externalizes costs and suppresses bargaining power (Jha & Yeros, 2023; IPES-Food, 2024b).

c. Marginalization, Gender, and Informality

Women, informal workers, Indigenous peoples, and other marginalized groups are concentrated in the **lowest-paid**, **least secure segments of the food workforce**; women's informal and unpaid roles (e.g., family farm labor, small-scale food prep) are often invisible in statistics and thus fall outside labor protections (ILO, 2022; HLPE, 2023). Indigenous communities face compounded disadvantages — historical land dispossession, limited access to training, and systemic discrimination — while intersecting identities (gender, ethnicity, migration status) further entrench barriers to decent work and economic security (IPES-Food, 2024b; ILO, 2022). Informality, while often stigmatized as a deficit, enables survival and flexibility for millions, yet exposes them to significant economic and physical insecurity, along with punitive pressure from authorities that fail to recognize their fundamental role in food systems.

d. Migration and Labor Vulnerability

Migrants — documented and undocumented — are essential to harvesting, processing, and distribution, yet are **concentrated in low-paid, long-hour roles** with limited independent oversight; insecure legal status compounds risks (Renaut, 2003; Klassen & Murphy, 2020). Employer-tied recruitment or visa schemes heighten vulnerability to exploitation and retaliation (McLaughlin & Weiler, 2017; Klassen & Murphy, 2020), while refugees and asylum seekers are often pushed into informal work that lacks protections, exposing them to wage theft, unsafe conditions, and abuse (Palumbo et al., 2022).

From Narratives that Perpetuate Inequities to Policies that Confront Power

The analysis above demonstrates how power inequities in resources, corporate concentration, governance, and labor shape who has access

to food, who sets priorities, and who bears the social and ecological costs. Yet, as Anderson (2024) points out, dominant narratives continue to obscure these inequities. Productivism and the commodification of food, and the denial of historical and contemporary power inequities still underpin food policymaking and even proposals for more sustainable futures. Rights-based approaches have made progress, with broader recognition of the Right to Food (OHCHR, n.d.) and of agroecology—although the latter has also been co-opted in mainstream policy (Anderson and Maughan, 2021)—and partial acknowledgement of food sovereignty through the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP). Still, mainstream solutions tend to emphasize modernization, formalization of supply chains, export-oriented value chains, waste reduction, and technical "fixes", while leaving structural power inequities unaddressed.

Underlying all of this is the commodification of food, which limits the ways in which we imagine food systems functioning (Anderson, 2024; Vivero-Pol et al., 2019). Treating food primarily as a tradable good serves market demand rather than human or ecological needs, and it sidelines spaces where food circulates outside for-profit logics. Confronting this commodification ultimately requires addressing the structural power inequities that determine how food is produced, distributed, and governed.

For these reasons, the vision that follows places recognition of power inequities at the center of policies for transformation. What has long been highlighted in scholarship and social movement analysis is too often sidelined in policy; this report seeks to integrate those insights into concrete pathways for change.

Part II: Power to Transform: A Vision and Recommendations for the Future of Food

No true transformation is possible without reshaping the underlying distribution of power.

Our vision for future food systems is that **power is redistributed** such that everyone has access to affordable, healthy, sustainable, and culturally appropriate diets—and so ecological sustainability, inclusive governance, and self-determination can be achieved.

Achieving these outcomes requires confronting the structural power inequities that shape how food is produced, distributed, and governed. This report argues that addressing the power inequities detailed above must be a core policy objective for food systems transformation, because it is only by tackling these imbalances that we can secure lasting progress in food access, health, environmental sustainability, and equity.

Food system transformation cannot be pursued in isolation. It is bound up with the wider structures of poverty, inequality, and exploitation that shape access to good food. True change requires confronting the systemic drivers—low wages, precarious labor, environmental harm, and extractive development—rooted in economic and political paradigms

Policy Recommendations to Confront Power in Food Systems

REDISTRIBUTE ACCESS TO, CONTROL, AND OWNERSHIP OF RESOURCES

From land to oceans: reclaim natural resources

Public investment for the public good: public finance, technology and innovation, infrastructure

REBALANCE POWER BETWEEN ACTORS

Reduce **corporate dominance** and its negative impacts

Support **movements and associations** aligned with transformation

Revalue **labor** in food systems

Reclaim public power — the role of the **state**

RECLAIM CONTROL OVER FOOD ACCESS ACROSS PUBLIC, MARKET, AND COMMUNITY SYSTEMS

Reorient markets around territorial and local food needs

Expand the **public sphere** of distribution and eating

Support communities to secure good food

REORIENT POLICY DISCOURSE AND NARRATIVES FOR FOOD SYSTEMS TRANSFORMATION

Expose and contest narratives that sustain power inequities

Pressure key actors to address power explicitly

Prevent co-optation of power

Develop institutional capacities for **reflection and adaptation**

that privilege short-term growth, corporate profit, and the geopolitical dominance of powerful nations over sustainability, equity, and public well-being. These dynamics are reinforced by narratives and discourses that allow corporations, governments, and powerful nations to present themselves as agents of change, even while advancing opposing agendas or making only marginal adjustments that leave underlying structures intact.

However, while broader systemic change is undeniably necessary, this report focuses on concrete, actionable policy pathways to address specific power inequities within food systems. To this end, the chapter briefs in this report examine how power can be redistributed across key domains—agriculture, fisheries and aquaculture, supply chains, nutrition, governance, and the valorization of neglected and underutilized species—and recommend concrete policies in each of these areas.

This section brings together core recommendations for addressing the power inequities analyzed above and advancing the vision of rebalancing power in food systems. Informed by the chapter briefs in this report, the recommendations below are grouped into four categories: redistributing access to, control, and ownership of resources; rebalancing power between actors; reclaiming control over food access; and reorienting policy discourses and narratives. These categories propose structured pathways for change, which are summarized in the following table.

Overview of Strategies and Policy Recommendations in this Chapter

Strategy	Policy Recommendations
Redistribute access to, control, and ownership of resources	From land to oceans: reclaim natural resources
	Public investment for the public good: public finance, technology and innovation, infrastructure
Rebalance power between actors	Reduce corporate dominance and its negative impacts
	Support movements and associations aligned with transformation
	Revalue labor in food systems
	Reclaim public power—the role of the state

Strategy	Policy Recommendations
Reclaim control over food access across public, market, and community systems	Reorient markets around territorial and local food needs
	Expand the public sphere of distribution and eating
	Support communities to secure good food
Reorient policy discourse and narratives for food systems	
narratives for food systems	Expose and contest narratives that sustain power inequities
• • •	-
narratives for food systems	that sustain power inequities Pressure key actors to address

Recommendations 1: Redistribute Access, Control, and Ownership over Resources

The first set of recommendations addresses **resources**, broadly understood to include natural resources (land, water, forests, and oceans), public and private finance (credit, subsidies, procurement, development bank lending, and climate finance), as well as technology, innovation, and infrastructure. While these areas are often treated separately in policy debates, considering them together as resources highlights the need to reorient how they are invested, governed, and made available. Placing this set of recommendations first reflects their centrality: reclaiming and redistributing resources is the starting point for solutions that serve the public good, advance ecological sustainability, and strengthen the actors and systems that provide food security.

I. Reclaiming Natural Resources, from Land to Oceans

Ensuring equity with respect to natural resources **requires more than increasing access**; without dismantling the power structures that exclude marginalized communities, efforts risk entrenching the status quo. At stake is not just access but control—who governs land, water, forests, and seeds, and whose priorities and knowledge shape their use and stewardship.

Redistribute Power Related to Natural Resources

Strategy	Policy Recommendations
Redistribute ownership and control , both individual and collective	Legal recognition of diverse tenure and use models
	Participatory and inclusive governance
	Recognize and promote collective natural resource access and management
	Support to ensure equitable ownership and management rights for marginalized groups
Reorient economic policies around natural resources	Prevent land and water grabbing and speculation
	Redirect subsidies to secure community access
	Protect collective practices and use with respect to seeds, medicinal plants, and fisheries
Prioritize and protect Indigenous and traditional knowledge in natural resource management	Adopt a pluralist approach
	Reorient public research and extension
	Reorient education and training

a. Redistribute Ownership and Control, both Individual and Collective

Redistribution of ownership and control over natural resources is essential to ensure fair access to food and to secure diverse ways of making a living. It is also one of the most controversial and politically difficult reforms to advance, often resisted by entrenched, powerful interests and difficult to place on national and international agendas. It requires affirming the right to self- determination in food systems, enabling communities and people to define their own agricultural, fishing, and gathering pathways according to their needs and contexts.

This requires reclaiming control over land, seeds, and water systems. Evidence from community co-management systems shows that devolving decision-making to the local scale can strengthen food access and ecological sustainability (Agrawal & Ostrom, 2001). Land redistribution must also ensure that redistributed land includes fertile,

well-located plots with access to water and markets. **Public policies governing water** should strengthen local capacity for allocation, enforce strict safeguards against pollution, and prioritize investments in sustainable irrigation and watershed restoration that secure reliable access for marginalized groups.

Effective redistribution of ownership and control of natural resources requires legal recognition of diverse tenure, rights, and use models, including communal, collective, customary, individual, and mixed forms (Suhardiman & Scurrah, 2021a, 2021b). This should happen alongside institutional and financial support for cooperatives, peasant associations, Indigenous communities, and small-scale fishers. Redistributive reforms must also be adapted to local histories and contexts, and be shaped by local community priorities and by how equitably natural resources are currently distributed. In urban areas, legal recognition of diverse management demands zoning reforms, technical support, and prioritizing marginalized groups.

Participatory and inclusive governance that gives decision-making (not only advisory) power to marginalized groups should guide criteria for natural resource redistribution, monitoring of resource use, and conflict resolution. At the same time, policies should avoid approaches that overlook internal power dynamics or impose unwanted structures, since not all communities seek collective management. In some contexts, individual or hybrid forms of ownership and governance may be more appropriate. Policies must broaden support for equitable ownership and management rights for women, Indigenous Peoples, and other marginalized groups. Reforms must go beyond "gender-sensitive" or "inclusive" development approaches that leave underlying power inequities intact (Agarwal, 1992, 1994).

There are several contemporary precedents for land and water reform initiatives, including: the Landless Workers Movement (MST), in Brazil; attempts to return white-owned land to Black communities in post-Apartheid South Africa; the Acequia water management system in Colorado, in the United States (Hicks and Peña, 2003); and Indigenous fisheries management in Canada (Lowitt et al., 2020). The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) affirms the right of Indigenous communities to the lands, territories, and resources they have traditionally used (United Nations General Assembly [UNGA], 2007), while research on women's roles in fisheries management highlights the importance of securing their participation in governance and decision-making (Harper et al., 2017). If natural resource ownership management and reform is not taken seriously, community self-determination about food access is unlikely to occur.

Reorient Economic Policies Around Natural Resources

Economic policies should recognize land, water, forests, fisheries, medicinal plants, and seeds as essential for providing food and sustaining ecosystems, moving beyond treating them as commodities. This means embedding decommodification and community rights over natural resources—already affirmed in frameworks like UNDROP and UNDRIP—directly into investment, trade, and development policies, so that these resources are prioritized as the foundations of food provision and ecological health.

Economic policies should establish enforceable national and international mechanisms to stop dispossession through land and water grabbing, restrict speculative financialization of these resources, and strengthen and secure tenure for communities. Coordinated regulation and enforcement are essential to close the legal loopholes that allow corporations and investors to capture critical resources for food access and better livelihoods (De Schutter, 2011). Further, subsidy regimes should be shifted toward strengthening community access, control, and sustainable use of land, water, and fisheries, and away from industrial exploitation of these resources. Public support should prioritize small-scale producers, Indigenous and communal management systems, and local practices that safeguard both livelihoods and ecosystems.

Policies must safeguard collective practices of **seed saving and exchange, and medicinal plant harvesting**, from restrictive intellectual property regimes within the broader economic context. Legal measures limiting monopolies, further consolidation of the seed industry, and predatory patent litigation are a critical part of preventing biopiracy and ensuring community-level self-determination, future use, and management of these resources. Policies must further **ensure transparency and collective management** — **where desired by local communities** — **in fisheries** governance to prevent corporate capture. Such measures strengthen community autonomy in managing biodiversity and marine resources.

c. Prioritize and Protect Indigenous and Traditional Knowledge in Natural Resource Management

Indigenous, local, and community-based knowledge systems can encompass essential practices for managing land, water, seeds, and fisheries in ways that sustain food and ecosystems (Agarwal, 1992; Harper et al., 2017). Policies must not only recognize this diversity but embed it in decision-making at every level. This requires protecting communities' control over their knowledge and avoiding top-down institutionalization that risks appropriation (UNDRIP, 2007). Governments should ensure legal recognition of collective rights, guarantee substantive

community participation in natural resource governance, and support grassroots and farmer-led management systems (Agrawal & Ostrom, 2001).

Policies and impact assessments in natural resource management should adopt a pluralist knowledge framework, integrating Indigenous, local, and community-based knowledge through mechanisms carefully co-designed with the communities in question, which can handle uncertainty and conflicting perspectives, and recognizing Western science as only one form of knowledge among many. Crucially, such approaches must include legal safeguards against appropriation (UNGA, 2007) and protect intergenerational transmission of knowledge, including in informal spaces like community schools and gardens (Mares and Peña, 2010; Reynolds and Cohen, 2016).

Publicly funded research and extension should be reoriented to further prioritize community-driven, transdisciplinary, and non-corporate approaches, centering Indigenous, local, and traditional knowledge systems (Escobar 2011.) Further, education for agriculture and food systems professionals should be oriented toward teaching critical awareness of colonial histories and power inequities in land- and water-based food systems, alongside technical skills. Models from groups such as the Agrarian Scholars of the Global South and Highlander: The Movement School demonstrate how centering local and Indigenous knowledge can reshape education to better serve diverse communities.

II. Reorient Public Investments for the Public Good

Public resources—whether money, technology, or infrastructure—are among the strongest levers shaping food systems. Redirecting them away from corporate and export priorities toward social, ecological, and community goals can shift power and define whose needs food systems are built to serve.

Reorient Public Investments for the Public Good

Strategy	Policy Recommendations
Make finance work for food access, sustainability, and equity	Expand inclusive public finance institutions
	Redesign risk management and insurance products
	Redirect climate finance and development-bank lending

Strategy	Policy Recommendations
Public finance as a tool to rebalance power	Tax harmful practices and reinvest in equitable food systems
	Turn subsidies into drivers of sustainable food systems
	Leverage public procurement to reshape food systems
Redirect technology and innovation	Reclaim innovation across the food system
	Elevate diverse knowledge systems
	Make technology serve local markets
Infrastructure for territorial food systems	Invest in territorial and community food infrastructure
	Reassert public responsibility over strategic assets
	Support and upgrade traditional and informal food markets

a. Make Finance Work for Food Access, Sustainability, and Equity

Reorienting financial flows—from credit and insurance to climate finance and development-bank lending—is essential to correct distortions and **direct resources toward the actors and systems** that genuinely provide food security and sustain ecosystems, rather than subsidizing capital-intensive models that perpetuate exclusion and ecological harm.

Governments should expand public banks and cooperatives, and guarantee schemes with explicit equity and sustainability mandates to ensure that smallholders and community enterprises gain access to affordable credit while safeguarding them from exploitative private lending. Public-community partnerships should design innovative insurance and risk-management tools that offer affordable coverage for climate and market risks, tailored to the specific needs of women and young producers. Climate finance and development-bank lending should also be reoriented away from large-scale, capital-intensive projects and toward small-scale producers, cooperatives, and communities — the groups most affected by hunger and climate shocks, and the ones best positioned to build biodiverse and local and territorial food systems.

b. Turn Public Finance into a Tool for Food System Change

Aligning taxation, subsidies, and procurement with healthier diets, fairer livelihoods, and sustainable food systems can shift power away from dominant actors and toward actors and communities that drive transformation. Taxing activities that degrade the environment, exploit natural resources, or undermine health and nutrition — and eliminating the exemptions and leakages that favor large business and commodity traders — would free up revenues that can be reinvested in equitable, territorially rooted food systems.

At the same time, **harmful subsidie**s that entrench monocultures, industrial fleets, or ultra-processed products should be redirected to farmers and fishers producing fruits, vegetables, pulses, neglected and underutilized species, and other diverse foods. Finally, the **purchasing power** of public institutions — schools, hospitals, etc. — can be leveraged to set new standards for what is valued in food systems, prioritizing agroecological producers, small-scale fishers, traditional markets, and local processors. Funds currently devoted to promotion of exports or luxury markets could instead be redirected toward inclusive and sustainable procurement (see brief *Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation*).

Redirect Technology and Innovation for the Public Good

Innovation and technology should strengthen diverse knowledge systems, local markets, and everyday food needs, rather than advancing narrow corporate agendas. Expanding public funding for participatory, open-access research across the food chain is crucial to prioritize farmer- and community-led needs and safeguard outcomes from corporate capture.

Agroecology, small-scale fisheries, and Indigenous and local practices must be recognized as **central sources of innovation**, with equal policy and funding support alongside scientific research through education, extension, and community-led initiatives. Public investment should also ensure that technology and innovation strengthen production and supply chains that feed **local and territorial markets**, rather than privileging export-oriented or luxury sectors.

d. Reclaim Infrastructure for Territorial Food Systems

Strategic assets and facilities have long been captured by the logic of competitiveness and export. Reasserting public responsibility and investing in territorial and traditional infrastructures can shift control back toward the actors who actually feed people. Public investment should prioritize storage, processing, transport, and market facilities that serve small-scale producers and traditional markets, with collective management models that combine state support with cooperative or community control.

Reasserting public responsibility also requires strengthening state capacity and regulation to ensure that ports, highways, and energy grids operate as public goods serving domestic food security, not just industrial supply chains and export markets. At the same time, traditional and informal markets should be supported and upgraded with improved safety, logistics, and infrastructure in ways that remain affordable and inclusive, preventing the displacement of vendors and consumers while strengthening their role as key nodes of agroecology, sustainable fisheries, and territorial food systems.

Recommendations 2: Rebalance Power Between Actors with Stronger Regulations and Inclusive Institutions

Rebalancing power is not a matter of simply expanding participation; it is about strategically shifting political and economic influence away from extractive, profit-driven actors toward those rooted in sustainability, equity, and public and collective interests. These recommendations outline a structural agenda to redistribute power among four key actors in food systems: corporations, social movements and associations, labor, and the state. It proposes measures to reduce concentration and strengthen public oversight of corporations; to reinforce the capacities and influence of social movements and associations most aligned with food systems transformation; to revalue labor; and to rebuild state institutions so they can govern in the public interest.

Rebalance Power between Actors, with Stronger Regulations and Inclusive Institutions

Strategy	Policy Recommendations
Reduce market concentration and the negative impacts of corporate dominance	Reform competition policies in food systems
	Power proof environmental governance
	Regulate unfair and abusive contracting and labor practices
	Rein in financial speculation on food
Support social movements, associations, and communities aligned with transformation	Map transformative allies and pinpoint leverage for change
	Redistribute formal power in governance
	Support long-term organizing and shared infrastructure for collective power
Revalue labor in food systems	Guarantee decent work
	Protect and expand collective rights
	Protect migrant and informal workers
Reclaim public power: The role of the state	Strengthen State capacity in core public functions
	Democratize governance , with transparency, accountability
	Transform economic governance and climate and biodiversity frameworks to also serve food systems goals

Rebalancing power also requires **grappling with a shifting geopolitical context**: growing multipolar tensions, weakened multilateralism, and the erosion of global governance have left food systems more vulnerable to fragmentation and capture. The struggle over who sets the rules — whether for trade, technology, labor, or biodiversity — is intensifying.

a. Reduce Market Concentration and the Negative Impacts of Corporate Dominance

Reversing corporate dominance requires **competition policy to move beyond narrow price** considerations to curb mergers and vertical integration, embedding public interest tests and structural remedies that safeguard food access, working conditions, and ecosystems. Regulators should also address emerging forms of power, from digital platforms that control markets and data to financial actors that drive speculation and influence land use.

Environmental governance should be "power-proofed" by moving beyond externality mitigation toward rules that actively restrain corporate interference in land use, biodiversity, emissions, and fisheries. Governments must also regulate unfair and abusive contracting, ensuring fair purchasing arrangements, timely payments, safe working conditions, and robust labor rights for farmers, fishers, and food workers. Finally, financial speculation on food must be reined in by re-regulating commodity derivatives markets, capping excessive speculation, and treating food as a vulnerable public good, protected through transparent rules, public reserves, price stabilization tools, and stricter oversight of speculative flows.

b. Support Social Movements, Associations, and Communities Aligned with Transformation

Identifying and empowering the actors already advancing sustainability, food access, and equity — such as smallholder farmers, artisanal fishers, traditional market vendors, food workers, Indigenous organizations, communities, grassroots movements, CSA networks, public-interest dietitians — is key to building collective influence in governance and markets. Public policies should redistribute formal power by moving beyond token inclusion and granting real decision-making authority to these groups, ensuring structured representation with voice and vote in national, local, and regional food councils, backed by resources that strengthen their negotiating capacity and autonomy.

At the same time, donors and governments must support long-term organizing and collective infrastructure, providing flexible, multi-year funding for small-scale producers, cooperatives, communities, and social movements, alongside legal recognition, access to decision-making, and shared resources such as community media, regional hubs, and open-access digital tools.

c. Revalue Labor in Food Systems

Addressing labor exploitation and precarity requires rethinking how labor is valued, governed, and organized across the entire food system. The implementation and enforcement of national frameworks aligned with ILO conventions should guarantee fair wages, safe conditions, paid leave, and universal social protections — including health insurance and pensions — for all food system workers, from farm laborers and fishers to market vendors and food service staff, including those in informal and seasonal roles.

Governments must also protect and expand collective rights. Ratifying and enforcing ILO Conventions 87 and 98, preventing employer retaliation, and supporting diverse forms of worker organization—from unions and cooperatives to migrant associations and women-led collectives — are essential to counter corporate control and build worker power. Migrant and informal workers, who remain central yet highly exploited, must be guaranteed core labor rights regardless of status. Instead of punitive approaches, governments should ensure legal recognition, access to services, and inclusion in labor governance, making labor rights a foundation of food system transformation.

d. Reclaim Public Power: The Role of the State in Food Systems Transformation

The state cannot remain a neutral regulator or passive facilitator of markets; it must act as a proactive agent of sustainability, equity, and food access. This requires **robust public institutions capable of** redistributing power, regulating corporate influence, and guaranteeing the right to food and a healthy environment. Calling for a stronger state, however, is not without risks. In many contexts, public institutions are marred by corruption and elite capture. Food itself has been used as a tool of oppression, most starkly in conflict zones such as Gaza, where starvation is deployed as a weapon of war. Authoritarian regimes may also suppress dissent and perpetuate extractive models under the guise of sovereignty or economic growth.

Rebuilding state power must therefore go hand in hand with **radical democratization** — strengthening civic participation, enforcing transparency, and building institutional safeguards against abuse.

Strengthening state capacity for the public interest means **restoring essential functions**—seed provision, extension, procurement, infrastructure—while also expanding into education, social protection, employment, fiscal policy, and territorial development. **Democratic reforms in food governanc**e must transform decision-making rules with conflict-of-interest safeguards, disclosure of lobbying and financial ties, and public-interest criteria for participation. Actors aligned with food systems transformation—farmers, workers, Indigenous peoples, and social movements—should be empowered with real authority.

Finally, economic governance must be reoriented to also serve food system goals: trade agreements should include binding food system criteria; climate and biodiversity frameworks must commit to structural reforms on land, emissions, and value distribution; and public investment and innovation policy should prioritize territorial food systems and agroecological infrastructure over extractive, export-driven models.

Recommendations 3: Guarantee Food Access Through Market, Public, and Community Mechanisms

A central task for the state is to guarantee access to good food, particularly for those who currently cannot afford or reach it. Rather than placing the burden on individuals—who may lack the information and/or the means to eat well—or delegating food access to private actors whose main interest is profit, this approach reassigns responsibility to public institutions, social organizations, and communities. This involves strengthening the social and public sphere concerned with food and eating, and challenging the dominant logic that prioritizes industrial supply chains and export markets over feeding communities. It calls for the development of social infrastructure that supports the fair, healthy, and sustainable circulation of food.

Guaranteeing access demands a plurality of mechanisms—market-based, public, community-driven, and hybrid—that work together to ensure food is treated not as a commodity but as a shared necessity.

Reclaim Control over Food Access across Public, Market, and Community Systems

Strategy	Policy Recommendations
Reorient markets around territorial and local food needs	Strengthen traditional and wholesale food markets
	Advance healthy retail environments
	Support consumer cooperatives.
Expand the public sphere of distribution and eating	Redesign public procurement systems
	Create targeted subsidies for healthy foods
	Establish public and commu- nity-supported grocery stores, canteens, and dining halls

Strategy	Policy Recommendations
Support communities to secure good food	Support community kitchens and solidarity-based food distribution systems
	Support food banks to promote nutritious food access
	Expand mobile markets outreach

a. Reorient Markets around Territorial and Local Food Needs

Guaranteeing access to good food requires supporting the diverse market spaces and actors that have long sustained communities but remain overlooked in policy and investment. Strengthening traditional, informal, and wholesale markets through investment in infrastructure, safety, and governance—and integrating them into urban and territorial food planning—would connect small-scale producers with consumers, promote biodiversity, and build fairer, shorter supply chains.

Reorienting markets also means **reshaping retail environments** to ensure that healthier food options prevail. Beyond the progress achieved through front-of-pack labels, taxes on unhealthy products, and advertising restrictions, zoning laws can reduce the saturation of convenience stores in vulnerable neighborhoods, while public incentives can expand the presence of vendors selling fresh, nutritious foods that reflect territorial and community needs. **Consumer cooperatives** should also be supported as vehicles for market power, expanding affordable access to healthy food and strengthening ties with sustainable producers, backed by public seed funding, legal recognition, and technical assistance in underserved areas.

b. Expand the Public Sphere of Distribution and Eating

Food access should not depend on market forces alone. **Public institutions can play a pivotal role** in guaranteeing universal access to healthy, sustainable, and culturally appropriate food. Redesigning **public procurement** systems in schools, hospitals, and food assistance programs offers one of the most effective ways to reshape supply chains, create predictable demand for small-scale producers, and rebuild state coordination capacity in distribution and logistics.

Governments should also create **targeted subsidies for nutritious foods** such as fruits, vegetables, legumes, and other staples, with particular focus on low-income households. These measures should be linked to progressive fiscal reforms, including taxes on ultra-processed foods

and sugary beverages, with revenues reinvested in public health and equitable food access.

Finally, public and community-supported grocery stores, canteens, and dining halls should be recognized as essential infrastructure within a broader agenda of care and the food commons. In urban areas where commercial options are unaffordable, unhealthy, or exclusionary, these spaces can guarantee dignified access to food while also creating decent employment for grocery workers and food vendors, and reducing the daily burden of food preparation for low-income households. While publicly funded, they need not be exclusively state-run; governments can partner with social enterprises and community organizations to ensure accessibility, inclusivity, and long-term sustainability.

c. Support Communities to Secure Good Food

Community-based mechanisms are essential to countering concentrated power in food distribution. When backed by policy and resources, they can shift control over food access toward organized communities, food workers, and small producers. Community kitchens—unlike public canteens, which are state-led—represent self-organized infrastructures that emerge in moments of crisis or persistent exclusion. They respond flexibly to local needs, channeling food from donations or mutual aid networks, and in doing so demonstrate how communities can build resilience and solidarity when markets and governments fail.

Other forms of community-led food distribution deserve similar support. Food banks should move away from dependency on corporate surplus and calorie-dense but nutrient-poor diets, instead prioritizing fresh, nutritious food through community-driven models. Public institutions can strengthen these efforts by redirecting surplus from procurement programs, subsidizing transport, and linking food banks to local producers. Mobile markets also offer a practical way to deliver healthy food to underserved neighborhoods; public backing should focus on infrastructure, coordination, and affordability, ensuring these systems remain rooted in communities rather than absorbed by commercial actors.

Recommendations 4: Confronting Power Inequities in Policy Discourse and Narratives for Food Systems Transformation

At the start of this chapter we noted **how most powerful actors in food systems policy** either ignore or actively avoid confronting power asymmetries. Yet taking on this task is precisely their most urgent responsibility. For decades, social movements and critical scholars have exposed the narratives and discourses that legitimize inequality, extractivism, and exclusion. Recent work (IPES-Food, 2022; Anderson, 2024) has added to this effort.

What we argue here is that the work of contesting power inequities in mainstream food systems narratives and policy discourses cannot remain confined to social movements and academics—it must extend to those institutions charged with defending the public good. Governments, United Nations agencies, international NGOs, and donors too often retreat into technical framings that protect their political survival but reproduce systemic harm.

If these entities genuinely seek to achieve food security and ecological sustainability, their responsibility in policy discourse is to **address power inequities directly**, rather than shelter behind technical framings that perpetuate them, and to acknowledge the historical and contemporary contexts in which these inequities are embedded. These key policy and food systems actors must do four key things:

Confront Power Inequities in Policy Discourse and Narratives

Expose and contest narratives

Public finance as a tool to rebalance power

Redirecting technology and innovation

Infrastructure for territorial food systems

a. Expose and Contest Narratives that Sustain Power Inequities

These actors should analyze and expose how narratives are produced, financed, and communicated to sustain existing power inequities—and create and sustain spaces where dissonant and marginalized discourse can unsettle the boundaries of what is considered possible. Narratives do not emerge spontaneously; they are generated and circulated by powerful actors, from consultancies and philanthropies to corporate lobbies and multilateral agencies, each with interests in maintaining the status quo. Naming these infrastructures of narrative production from within policymaking settings is essential, as is opening and supporting arenas where social movements, scholars, and other groups aligned with transformation can contest dominant framings and expand the field of legitimate debate. The CFS already does this, and a proposal to create a corollary to the Intergovernmental Panel on Climate Change (IPCC) for food has been critiqued as repetitive and a co-optation move (IPES-Food, 2021c), but policy must support more venues for integrated work to challenge power inequities in food systems.

b. Pressure Key Actors to Address Power Explicitly

These actors must pressure key food systems actors to bring power explicitly into their work, debates, tools, and policy instruments. This means rejecting the temptation to depoliticize issues into technical categories or managerial challenges. Instead, power inequities must be treated as central objects of analysis and action in food systems policy, development banks, aid, philanthropy, and finance, shaping everything from program design to budget allocation and evaluation frameworks. Without this, "addressing power" risks becoming a rhetorical flourish rather than a substantive commitment.

c. Prevent Co-optation of Power

These actors must be **proactive in resisting the co-optation of work on power**. Once the language of "power" enters official reports and policy discourses, it can be easily neutralized— acknowledged at the level of discourse but left untouched in practice, as has been the case with agroecology as noted above. To prevent this, key actors, including independent institutions and researchers, must distinguish between discursive inclusion of the term and genuine shifts in agenda, accountability, and redistribution. Otherwise, invoking "power" in policy change discourse, without actually addressing power inequities, serves as a shield that protects existing arrangements rather than a lever to transform them.

d. Develop Institutional Capacities for Reflection and Adaptation

Key organizations and actors must support and develop dynamic institutional capacities for reflection and adaptation, recognizing the speed with which transformative concepts are co-opted. Again, terms like "sustainability" and "agroecology" are quickly absorbed by corporate and state actors, often emptied of their political, nutritional, and ecological substance. To remain effective, strategies to address power inequities in food systems must anticipate this dynamic, recalibrating discourses and practices as soon as signs of dilution or narrative capture appear. This requires, for example, that institutional cultures in major organizations are reflexive and responsive, rather than static or bureaucratic.

Across all of these recommendations, all governments, United Nations agencies, international NGOs, and donors must take very seriously the **differences in power between governments, globally** and address these inequities in policy negotiations. While all governments have the responsibility to work toward food security and ecological sustainability in their nations, regions, and territories, those governments with less political and economic power often see the well-being of their people

and environment brushed aside or addressed in relatively minor ways in policy negotiations, due in part to the lower level of political clout and influence that they hold. Examples of this are plenty, and include, recently, UN Climate Change Conference (COP29) agreements in 2024 to provide payments to Global South nations to aid in their adaptation to climate change. Though a step in the right direction, the agreed-up-on payments were a far cry from what had been demanded by the governments of some of the Global South nations slated to receive the funds ("COP 29 UN Climate Conference Agrees to Triple Finance to Developing Countries," 2024; Deal 'too little, too late,' 2024). The power inequities apparent in such negotiations and outcomes as they pertain to food systems policy must be confronted and addressed.

Conclusion

This chapter has examined **power inequities as a fundamental driver** of many of the access, health, environmental, and economic inequalities in global food systems, from local to global scales.

We have proposed a vision of redistributing power to ensure access to affordable, healthy, sustainable, and culturally appropriate diets for all, promoting ecological sustainability, inclusive governance, and self-determination. To this end, our strategic recommendations have called for redistributing access to, control and ownership of resources; rebalancing power between actors, with stronger regulations and inclusive institutions; reclaiming control over food access across public, market, and community systems; and reorienting policy discourse and narratives for food systems transformation.

In keeping with the analyses of power and inequities that opened this chapter (e.g., Sen, 1981; Fakhri, 2024; IPES-Food, 2025), we conclude by underscoring two key points:

First, food systems challenges that are often the focus of policies—notably those about food insecurity and access, but also health and the environment—are the **outcomes of decisions made by governments in the context of inequitable** political, economic, and, in some contexts, military power dynamics between governments and global regions. These challenges are "avoidable" (as referred to by the WHO concept of inequity noted at the beginning of this chapter).

Second, power inequities in food systems exist not only between communities or individuals on one hand and governments or corporations on the other. While these inequities certainly exist and create negative food systems outcomes, there are inequitable power dynamics between governments and regions that leave the less powerful among them little choice but to concede to decisions that may ultimately harm their populations and/or the environment.

Policies that aim to eliminate hunger, poverty, environmental degradation, and want must take power inequity seriously and then take decisive actions to confront its causes. Policy makers are, broadly, aware

of these inequities, but need to act upon this awareness even if it is politically risky or uncomfortable. Policy must also give credence to analyses by social movements and critical scholars of the root problem (power inequities) in order to realize transformative food policies.

The chapter briefs that follow provide more specific analyses and recommendations to address power inequities in several areas of food systems: agroecology, aquatic foods, neglected and underutilized species (NUS), diets and health, seeds, food supply chains, and food system governance.



Reclaiming Agriculture: Unveiling the Transformative Potential of Agroecology

María Fernanda Mideros Bastidas

Introduction

The industrial food system—built on monocultures, global supply chains, and resource extraction—has driven ecological degradation, social inequality, and the erosion of diverse food cultures. Agroecology offers a transformative alternative: not just a set of practices, but a pathway to rebalance power in food systems by challenging corporate control and centering ecological regeneration, social justice, and food sovereignty. To unlock its full potential, we must confront the structural barriers that limit its expansion.

Diagnosis

From Industrial Agriculture to the Depoliticization of Agroecology

The global food system as it exists today reflects the outcome of a long historical trajectory shaped by colonial exploitation, capitalist accumulation, and neoliberal restructuring. This evolution has **institutionalized an industrial model based on monocultures**, **high external inputs**, **and export-oriented supply chains** (Vivero Pol, 2013; Benton & Bailey, 2019). While this system has achieved significant gains in productivity, it has done so at immense ecological and social costs, threatening both planetary boundaries and food security.

In response to the failures of the industrial food system, a range of alternative approaches under the banner of "sustainable agriculture"

has emerged—such as sustainability certifications, climate-smart agriculture, and regenerative agriculture (El Bilali et al., 2021; Velten et al., 2015; Zhang, 2024). However, many of these initiatives remain embedded within reformist or technocratic frameworks. Their focus on incremental change often fails to confront the systemic roots of environmental degradation and rural inequality (Struik & Kuyper, 2017; Tittonell, 2014). As such, they may inadvertently perpetuate the status quo.

Agroecology offers a more holistic and transformative alternative. Though rooted in ecological science, it extends into social, cultural, and political spheres. Anchored in principles of territorial autonomy, equity, and participatory governance, agroecology seeks to reconfigure food systems around values of justice, resilience, and sustainability. Despite its scientific legitimacy and documented benefits, it remains underrepresented in global policy debates, constrained by structural power inequities and insufficient institutional support (Giraldo & Rosset, 2022; Martínez Valle & Martínez Godoy, 2019).

Despite growing recognition across academia, civil society, and policy spheres, agroecology remains a highly contested domain. In various global governance spaces, agroecology is often stripped of its radical critique of power and its emancipatory agenda, reduced instead to a set of technical practices or yield-enhancing strategies. This depoliticization not only distorts its original meaning but also weakens its capacity to challenge structural injustices and drive systemic transformation (Anderson & Maughan, 2021; Anderson et al., 2019).

Power Analysis

How Structural Power Inequities Undermine Agroecological Transformation

Agroecological transformation is increasingly recognized as being constrained by structural power inequities. These power inequities—rooted in global socio-economic and political systems—profoundly shape the distribution of land, knowledge, capital, and decision-making authority across regions and stakeholder groups (Ocampo et al., 2022). Such systemic inequalities significantly undermine the transformative potential of agroecology, relegating it to fragmented, localized experiments rather than enabling it to emerge as a coherent alternative to the prevailing corporate-led food regime. Overcoming these challenges requires more than technical improvements in agricultural practice. It demands a profound restructuring of resource access and ownership—including land and water—as well as transformative shifts in governance, education, research, and financial systems.

Insecure labor conditions and employment constitute a fundamental barrier to agroecological transition. Historical processes—such as colonial land appropriation and the capitalist restructuring of agriculture—have entrenched precarious employment and normalized forms of forced and undervalued labor (Ekumah, 2024). From an agroecological perspective, labor holds both promises and challenges: although diversified, local food systems can generate dignified livelihoods and

strengthen community resilience, these benefits are often limited by weak labor protections, informality, and lack of social support.

Land concentration—driven by speculation, large-scale acquisitions, and so-called "green grabs"—is a critical structural barrier to agroecological implementation. Across Asia, Africa, and Latin America, smallholders and Indigenous communities have been displaced by corporate investors, financial actors, and feudal landholders, leading to the monopolization of land ownership (Lowder et al., 2021; Ramdas & Pimbert, 2024; IPES-Food, 2024). These dynamics have reshaped tenure systems and eroded the security required for long-term agroecological investment. Further compounding the problem, market-based climate solutions and infrastructure projects frequently encroach on arable land, deepening rural poverty and threatening local food systems (Parola, 2021; Nhantumbo & Salomão, 2010). Discourses of sustainability are often instrumentalized to justify these forms of dispossession.

Similar patterns appear in water governance, where access and rights are often allocated based on institutional control and political influence, reinforcing existing social and economic inequalities. Smallholders and marginalized communities are routinely excluded from water access due to the dominance of extractive industries and large-scale agro-industrial operations, both in practice and in policymaking spaces (Zeitoun et al., 2011; DeLonge & Basche, 2017). Dominant frameworks tend to treat water as a commodity, thereby sidelining agroecological approaches that emphasize water as a commons and advocate for community-based, sustainable water management.

Agricultural governance is deeply centralized, favoring technocratic decision-making and corporate interests while excluding the grassroots actors who produce most of the world's food (Clapp, 2021; McMichael, 2016). Laws and policies often entrench corporate control rather than enabling agroecological transitions (HLPE, 2019; van der Ploeg et al., 2020), and powerful agribusiness and financial lobbies actively block reforms that could shift power over land, inputs, markets, and knowledge (da Costa & McMichael, 2007).

Dominant systems of **innovation and knowledge** perpetuate epistemic hierarchies that devalue agroecological perspectives. Research priorities continue to favor industrial technologies, biotechnology, and top-down innovation, sidelining farmer-led knowledge and Indigenous practices (Pingali, 2012). Intellectual property regimes reinforce the asymmetries that restrict access to seeds, techniques, and information, therefore consolidating power in private hands (Radic & Gardeazabal, 2024; Leeuwis et al., 2021).

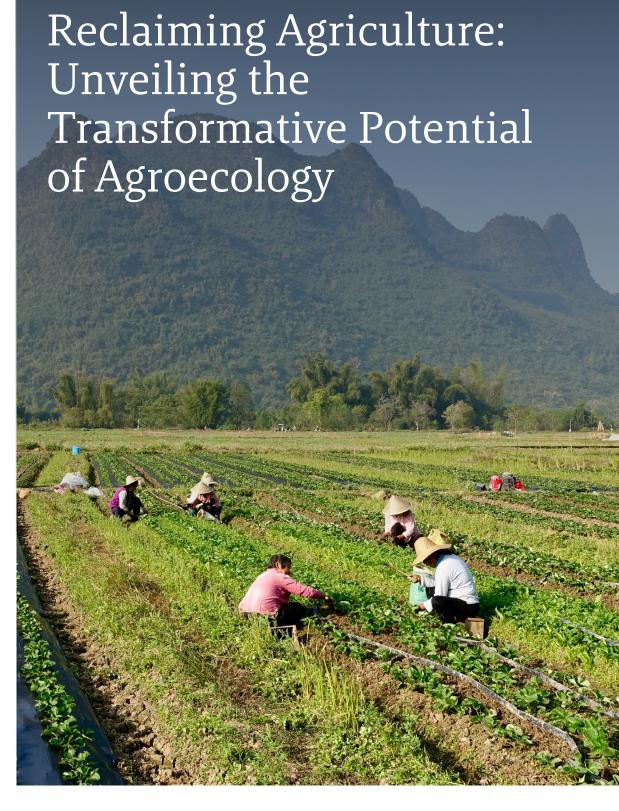
Market systems privilege large-scale, capital-intensive agriculture, marginalizing smallholders and territorially rooted initiatives through exclusionary supply chains and certification standards (Altieri & Nicholls, 2012; IPBES, 2019). While local markets and cooperatives offer fairer alternatives, they face structural disadvantages, such as poor infrastructure and limited public support (IPES-Food, 2024; HLPE, 2019). Certification schemes often worsen these inequities by imposing costs and administrative burdens that exclude diverse producers (Oya et al.,

2017; Thornton et al., 2023; DeLind, 2011; Sacchi et al., 2024).

Vision

Reclaiming Power and Commons: Advancing a Justice-Oriented Agroecological Transformation

A truly transformative agroecological transition requires a fundamental shift in power relations, moving beyond technical fixes to embrace agroecology as a holistic framework grounded in ecological integrity, social justice, and democratic participation. This vision rests on three strategic pillars: (1) ensuring equitable access, ownership, and control of land, water, finance, and dignified labor by treating them as commons rather than commodities; (2) democratizing knowledge and food economies through inclusive education, local food systems, and solidarity-based markets; and (3) reshaping governance to redistribute power and embed participatory decision-making across all levels.



Equitable access, control, and ownership of

LAND, WATER, FINANCE, AND DECENT WORK

that strengthens multi-level democratic multilateralism

DEMOCRATIZE KNOWLEDGE

Systems and Food Economies

Transform

GOVERNANCE

to Redistribute Power

Recommendations

Equitable access, control, and ownership of land, water, finance, and decent work

To advance agroecology, we must treat land, water, finance, and labor not as commodities but rather as shared resources governed democratically.

- Redistribute land by securing communal tenure, preventing speculation, and enabling participatory governance.
- Recognize collective land management through legal support for grassroots land rights movements.
- Embed ecological goals in land reform, prioritizing soil, biodiversity, and community stewardship.
- Guarantee equitable water access via participatory governance and infrastructure for smallholders.
- Redirect public finance to small-scale, diverse producers using inclusive and participatory tools.
- Ensure decent rural work by eliminating exploitation, providing protection, and supporting cooperative employment.

Democratize Knowledge Systems and Food Economies

Agroecological transformation requires dismantling exclusionary systems and building inclusive, place-based alternatives.

- Reform education and agricultural extension services to center sustainability, local knowledge, and food sovereignty.
- Reorient research and innovation toward community-driven, transdisciplinary, and anti-corporate approaches.
- Support agroecological cooperatives with legal, financial, and logistical backing.
- Strengthen territorial markets through infrastructure, networks, and equitable trade rules.
- **Use public procurement** to generate demand for agroecological products, especially in schools and health systems.
- Create long-term public financing mechanisms, such as agroecology funds with participatory governance.

3

Transform Governance to Redistribute Power

Agroecology requires a deep restructuring of governance to shift power away from corporate actors and toward communities.

- Promote decentralized, polycentric governance that centers grassroots participation and limits corporate influence.
- Institutionalize feminist agroecology by embedding gender equity and resourcing women-led initiatives.
- Enable bottom-up governance, grounded in local ecologies, cultures, and cross-regional collaboration.
- **Support social movements** through direct funding and formal roles in policy co-creation.
- Anchor agroecology in rights-based frameworks, especially the right to food, to institutionalize its legitimacy.



Navigating a Blue Future: Reimagining Aquatic Food Systems

Nicolás Rovegno Arrese

Introduction

Global aquatic food systems are at a critical crossroads, the result of increasing pressure from deeply entrenched power dynamics that distort decision-making. The central problem lies in governance that systematically prioritizes short-term economic gains over long-term sustainability, social equity, and ecosystem health. This extractive logic has not only led to severe environmental degradation and weakened the resilience of food systems but has also marginalized the needs of coastal communities and affected the availability of aquatic foods for those who need them most. To build a more just and sustainable future, it is essential to address the structural causes that perpetuate these power imbalances. This requires a critical analysis of how resources are allocated, who participates in decisions, and what narratives dominate a sector vital to global food security and biodiversity. The challenge is to move from treating the symptoms to transforming the structures that cause them, reimagining a system that nourishes both people and the planet.

Will aquatic foods help feed those who need them the most, or will they become a luxury item for the wealthy? Will aquatic food systems be fueled by abundant biodiversity, or will ecosystem collapse leave us reliant on a small number of resilient and commodified species? Will these systems be governed by inclusive decision-making, or will a few powerful industries and nations continue to control aquatic foods?

Diagnosis

How the shift from commons to commodities reshaped aquatic food systems

The current crisis in aquatic food systems is the result of a **long historical evolution that has transformed marine resources from locally managed commons into globally traded commodities**. Initially, coastal communities governed fishing grounds as common goods under traditional systems that balanced use and sustainability (Berkes, 1985). However, the introduction of preservation technologies, such as salting and drying, initiated a transition toward commodification (Pitcher & Lam, 2015).

This trend accelerated dramatically during the Industrial Revolution and the colonial period in the 19th and 20th centuries, when steam power and refrigeration enabled industrial-scale exploitation. This model, often imposed by colonial powers, prioritized export economies, marginalized traditional fishing practices, and showed the first signs of ecological collapse in populations such as herring and cod (Jackson et al., 2001; Bolster, 2018).

Post-war industrialization (1950–1990) deepened this extractive logic (Wintersteen, 2018). Advances such as sonar and freezer trawlers, together with the institutionalization of Maximum Sustainable Yield (MSY) as a management paradigm, consolidated a vision of the ocean as a space for mass production (Finley, 2016). Simultaneously, the "Blue Revolution" in aquaculture created a new dependence on fishmeal, diverting nutritious fish from the Global South to feed luxury species destined for Northern markets (HLPE, 2014; Naylor et al., 2021). Despite growing rhetoric around sustainability since the 1990s, the underlying power structures persist, manifesting today in chronic overfishing, corporate capture of policy, and the perpetuation of inequalities under new discourses such as the "Blue Economy" (Barbesgaard, 2017; Bennett et al., 2021).

Power Analysis

Who controls the catch? Power, profits, and exclusion in aquatic food systems

Corporate control: The oceans have their own giants but are ultimately controlled by a small number of corporate titans: a few actors decide what is caught, how the catch is processed, and even what narratives are told. When the same group controls fleets, fish meal factories, processing plants, and brands, the game is stacked before it even begins. Research has identified how a few global corporations have concentrated power over marine catches, thereby positioning themselves to shape global markets and policy priorities (Österblom et al., 2015; Virdin et al., 2021).

A similar situation can be seen in aquaculture, where transnational

production models are formed through consolidation and vertical integration (Asche et al., 2013; Quiñones et al., 2019; Pandey et al., 2023). Likewise, many of these companies also hold prominent positions in international sustainability initiatives and policy forums, from which they lobby, shape agendas, and advance arrangements consistent with policy and regulatory capture (Carr & Scheiber, 2002; Okey, 2003; Steinberg, 2006; Boyce, 2010).

Ocean commodification: The commodification of fish transformed resources essential for community subsistence into global commodities, displacing their cultural, nutritional, and ecological value with eminently economic criteria (Longo & Clark, 2012; Pitcher & Lam, 2015). In this transition, a simple translation from science to policy was sought. Maximum Sustainable Yield (MSY) was introduced as that simple concept, which proposed the idea that there is a "largest catch" that can theoretically be taken from a species' stock without depleting it. However, by reducing ecological and social complexity to a single number, its use led to productivity targets and increasingly narrow safety margins (Larkin, 1977; Hilborn, 2010; Roberts et al, 2024).

What should have been a precautionary limit ended up becoming an operational goal, susceptible to business and market pressures. This interpretation became institutionalized in international agreements, even when scientific advice called for greater caution. The accumulated evidence documents the pitfalls of managing "to the maximum" and the risks we take when aiming for, or even exceeding, that threshold (Carpenter et al., 2016; New Economic Foundation, 2019; Gilmour et al., 2025). Correcting course involves refocusing on fish as food and a public good and adjusting the rules to that end (Bennett et al., 2021).

Ocean neocolonialism and imperialism: The waters around many countries in the Global South feed distant tables in other countries. Foreign Access Agreements negotiated under conditions of unequal power have institutionalized asymmetries in access and value capture. Most of what is extracted by external fleets is exported, and only a fraction remains for local consumption (European Commission: Directorate-General for Maritime Affairs and Fisheries et al., 2023). Simultaneously, payments for access are often minimal, in some cases as low as 1:20 ratio of market value (Englander & Costello, 2023). This scheme is sustained by subsidies that make it profitable to operate thousands of miles away (Sala et al., 2018; Kroodsma et al., 2018; Tickler et al., 2019) and is associated with risks of illegal, unreported, and unregulated (IUU) fishing and forced labor (Agnew et al., 2009; McDonald et al., 2020).

This has been defined by literature as ocean grabbing, as it shifts benefits and decisions away from coastal communities (Bennett et al., 2015; Barbesgaard, 2017). Normalizing ocean grabbing has meant prioritizing exports and distant-water extraction (Alder & Sumaila, 2004; Gephart et al., 2024), creating short-term revenues while undermining food security and nutrition in coastal societies (Okafor-Yarwood et al., 2020; Nash et al., 2022).

Subsidization and cost externalization: Fishing (and sometimes overfishing) often cannot sustain itself and is only maintained through public funds. Subsidies turn loss-making operations into viable businesses and shift the ecological and social costs to the rest of society. Furthermore, they are disproportionately allocated to the most capitalized actors, while artisanal fishing receives a smaller share of public support, deepening the power asymmetry in the sector (Sumaila et al., 2019; Schuhbauer et al., 2020).

Added to this is the fact that citizens, through their taxes, finance, much of the research, monitoring, and control, while the income from the resources is privatized, with little recovery of public costs from the main financial beneficiaries (Arnason et al., 2000; Wallis & Flaaten, 2000; OECD, 2003; Carvalho et al., 2020). A more equitable system would ensure that those who profit most from privileged access to marine resources contribute proportionally to their stewardship.

Traditional ecological knowledge and western dominance: We can look at the ocean with one or two eyes: with Western science alone, or by combining it with traditional ecological knowledge (TEK). By using both, we gain depth: science provides data series, estimates, and comparability; TEK provides subtle signals from the territory (seasons, sizes, locations, behaviors).

It is not a matter of romanticizing any of the two, as each approach has its limits, but rather of making them work together to make better decisions. This "double vision" can reduce risk and improve biodiversity and food outcomes without requiring new bureaucracies, as it integrates local observation into monitoring, evaluation, and rules with an effective voice. Evidence shows that combining formal data with TEK improves detection, adaptive management, and resilience (Berkes et al., 2000; Moller et al., 2004; Silvano & Valbo-Jørgensen, 2008; de Sousa et al., 2022; Niner et al., 2024).

Luxury aquaculture and the fish meal paradox: Cheap fish feeds expensive fish. We convert pelagic fish that could feed millions into pellets for fish farms that supply more expensive fish to high-income markets. Evidence shows that a large proportion of the fish used for fish meal and fish oil is suitable for direct human consumption, turning "efficiency" into real nutritional loss (HLPE, 2014; Cashion et al., 2017).

Furthermore, corporate control and vertical integration of aquaculture and feed reinforce this process (Kvaløy & Tvetera°s, 2008; Hansman et al., 2018; Pandey et al., 2023), while metrics such as FIFO (fish in, fish out; or how many kilos of wild-caught fish, which then is turned into fishmeal and fish oil, must be fed to produce 1 kilo of farmed fish) obscure ecological and nutritional trade-offs, with discrepancies detected by external reviews (Majluf et al., 2024). Ultimately, the cost falls on communities with few dietary alternatives and, on a global scale, consumption in rich countries externalizes ecological and food pressure that does not return as food (Dème et al., 2021; Dème et al., 2022).

Vision

Just, transparent, and inclusive aquatic food systems

In the future, we foresee that aquatic food systems will primarily feed communities, sustain biodiverse and functional ecosystems, and be governed in an inclusive and accountable manner. Capture fisheries and aquaculture will diversify toward native species and short supply chains; small pelagic fish will be preferentially targeted for human consumption; aquaculture will be decoupled from forage fisheries through alternative inputs and integrated systems. Decisions will be made in co-governance arrangements with Indigenous people, artisanal fishers, women, and youth, who all have effective voices, and fisheries management transparency will be the norm. Subsidies that are harmful or inequitably distributed will be reoriented towards restoration, local food infrastructures, and climate adaptation, and management costs will be shared fairly with large industry. With open information and accountability, oceans and inland waters will be recognized as living public goods that sustain healthy diets, local economies, and functional ecosystems, reducing inequalities and climate vulnerabilities.

It is clear what must happen: make visible the forces that shape the sector, question the assumptions that underpin them, and keep decision-making responsive to people and aquatic food systems. When power is acknowledged, inclusion becomes possible; and when inclusion guides choices, aquatic foods can deliver healthy diets, resilient economies, and thriving biodiversity.



REORIENT PUBLIC RESOURCES TOWARD EQUITY:

Eliminate harmful subsidies and unfair fishing deals, require industry to cover management costs.

ENSURE INDUSTRY ACCOUNTABILITY IN COST-SHARING:

Make large industrial players bear the costs of research, monitoring, and governance.

DEMOCRATIZE GOVERNANCE AND DECISION-MAKING:

Institutionalize inclusive decision-making that recognizes traditional knowledge, involves fishers, women, youth, and Indigenous peoples.

PUBLIC, DECOUPLE FOOD PRODUCTION FROM EXTRACTIVE DEPENDENCE: INNOVATION

Prioritize small pelagics for human diets, shift fishmeal away from luxury aquaculture.

Recommendations

Redirect current harmful subsidies that reinforce inequity and unsustainable practices toward artisanal fishing, ecosystem restoration, and short supply chains with cold storage to strengthen local and sustainable food supplies..

Establish public procurement of fish from small producers for schools, hospitals, and social programs, providing stable income for the sector and better nutrition for the population.

Secure coastal use rights and community co-governance (with seats for women and young people) to better care for resources, comply with rules, and strengthen livelihoods.

Combine Western science and Traditional Ecological Knowledge to adapt rules and management measures in a timely manner, reduce risks, and legitimize decisions.

Ensure big industry players pay their fair share of research, management, and control costs, relieving the taxpayer and improving oversight.

Reform foreign access agreements with real resource value, full transparency, and mandatory contributions to local nutrition and infrastructure, to retain more value and food in local territories.

Recommendations

Promote fisheries management transparency (i.e. regulations, quotas, vessel registries, catch data) to prevent corporate capture and enable effective citizen control.

Prioritize small pelagic species for human consumption (i.e. minimum quotas, cold storage, local processing, consumer awareness) to lower prices and improve diets with nutritious fish.

Decouple aquaculture from fishmeal and fish oil (alternative inputs and integrated systems with native species) to relieve pressure on forage fish and open up a more inclusive aquaculture.

Rebuild populations and restore key habitats (mangroves, estuaries) as food and climate infrastructure, achieving more stable catches and greater resilience.





Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems

José Luis Chicoma

Introduction

Food systems are often imagined as vast highways of trade and logistics, stretching from industrial farms to supermarket shelves. Yet for most people—especially in developing countries—food still arrives through smaller, closer, and more diverse routes: a neighborhood market, a street vendor, a trusted corner shop. These everyday systems—traditional and informal supply chains—rarely capture the attention of private investors or policymakers. Still, they are where biodiversity is kept alive, where millions of women sustain livelihoods, and where healthy food is made accessible and affordable to those who need it most. To confront power and truly transform food systems, we must begin here, in the overlooked networks that quietly nourish billions of people every day.

Diagnosis

Beyond Industrial Supply Chains: The Everyday Systems that Feed Us

Food supply chains encompass all post-production activities that move food from producers to consumers—including processing, packaging, storage, distribution, retail, and marketing (HLPE, 2017; OECD, 2024). While global narratives have long focused on scaling efficiency, profit, and trade—treating food primarily as a commodity—this emphasis has obscured the critical role of traditional and informal food supply chains in sustaining biodiversity, ensuring food access, and supporting local



economies. In reality, people obtain their food through a wide range of channels—modern and traditional, formal and informal—reflecting diverse geographies, cultures, income levels, and infrastructures.

Modern industrialized supply chains are designed for homogeneity and long-distance flows. They prioritize durable, standardized, and processed foods that can be efficiently packaged, stored, and transported (Khoury et al., 2014). Though highly efficient for specific commodities, these supply chains rely heavily on fossil fuels, global infrastructures, and a narrow set of crops at the cost of diversity and resilience (Willett et al., 2019, IPES-Food, 2025). These systems also contribute to dietary homogenization, replacing local food traditions and biodiversity with calorie-dense ultra-processed products and standardized food offerings that lack cultural and nutritional diversity (Gómez & Ricketts, 2013; Patel, 2012; IPES-Food, 2024).

In contrast, traditional and informal supply chains are essential for ensuring access to affordable and nutritious food, particularly for low-income populations (Battersby et al., 2016; Simon, 2007). These systems—driven by small-scale producers, vendors, and processors—usually offer flexibility in product quality and volume, provide fresh and biodiverse foods, and enable daily or weekly purchasing patterns based on trust, credit, and cultural norms (Crush & Frayne, 2011). They also support gender inclusion, with women playing central roles in informal retail and processing (Simon, 2007; HLPE, 2024).

Traditional supply chains play a vital role in conserving agricultural, aquatic, and livestock biodiversity (Johns et al., 2013; Zimmerer & Haan, 2020; Heindorf et al., 2021). Their decentralized structures allow them to commercialize neglected and underutilized species (NUS), support agroecological production, and reduce food waste by utilizing products overlooked by industrial value chains (HLPE, 2024). However, they remain under-supported—lacking cold storage, infrastructure, and public investment (HLPE, 2017).

Climate change further stresses food supply chains. It reduces productivity, disrupts storage and transport systems, and heightens the vulnerability of monocultures (Vermeulen et al., 2012; Fanzo & Davis, 2021). Traditional supply chains, however, due to their diversity, local grounding, and shorter distribution loops, offer greater resilience (Kay, 2016).

Power Analysis

How Power Inequities Systematically Undermine and Limit Traditional and Informal Food Chains

Traditional and informal food systems have been sidelined not by accident, but through historical and structural power inequities.

Global trade agreements, neoliberal reforms, and modernization programs have redirected resources toward export-oriented and industrialized food chains (Clapp, 2020; McMichael, 2005; Weis, 2007). Structural Adjustment Programs (SAPs) imposed by the IMF and the World Bank



required countries to liberalize agriculture, cut public spending, and shift toward commodity exports—systematically deprioritizing territorial markets and informal actors (Pimbert et al., 2001).

Corporate concentration is a major outcome of this neoliberal globalization. The "ABCD" firms—Archer Daniels Midland, Bunge, Cargill, and Louis Dreyfus—control 80% of the global grain trade (Lawrence & Smith, 2020). Just four firms dominate U.S. meat processing, while supermarket chains hold over 60% of market share in countries like the U.S., France, and Australia (IPES-Food, 2017; Lawrence & Smith, 2020). These corporations use their instrumental (lobbying), structural (agenda-setting), and discursive (narrative-shaping) power to entrench dominance and shape food policy to their interests (Clapp & Fuchs, 2009; Clapp, 2020; Clapp et al., 2025).

Simultaneously, traditional and informal actors have been marginalized or are treated as illegitimate. The traditional and informal food sectors remain underexplored, with limited research capturing the intricate dynamics of their operations (HLPE, 2024; Reardon et al., 2021). Small-and medium-sized operators in the midstream of value chains—often described as stagnant, traditional, and constrained—are frequently neglected in food security policies. For example, traditional markets, often vital for food access for those that need it the most, are overlooked and often struggle with insufficient infrastructure, lack of access to credit, and an absence of public procurement policies designed to support them.

Public policies often treat informality not as a viable, enduring part of the food system but as a problem to eliminate—a symptom of underdevelopment or a disorder to be "fixed" through formalization. This exclusionary mindset, rooted in outdated ideas of linear progress, obscures the essential roles that informal actors—vendors, intermediaries, processors—play in feeding cities, supporting biodiversity, and enabling livelihoods. Because they operate in legal grey zones, they remain invisible in planning and budgets, yet they are hypervisible when targeted for eviction or displacement under the banner of modernization and gentrification (Vorley, 2023; Simon, 2007; Gonzalez & Waley, 2012). This contradiction reinforces policies that punish rather than support, ultimately weakening food access and deepening inequities.

Vision

Reclaiming Food from the Market: Restructuring Supply Chains to Prioritize the Essential Nature of Food

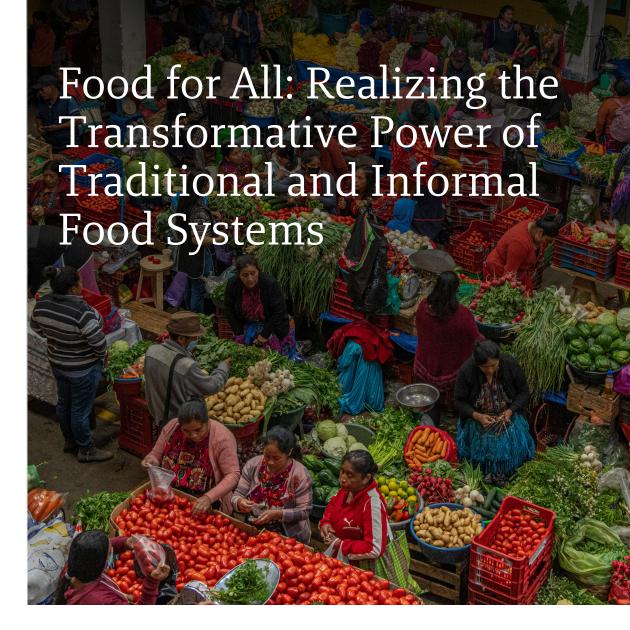
Food supply chains must be reimagined around the essential nature of food—not as a commodity optimized for trade and profit, but as a foundation for life, culture, and ecological balance. Supply chains must be restructured to shorten the distance between producers and consumers, center ecological diversity, and ensure food reaches those who need it most—particularly through traditional and informal systems. Rather than marginalizing diversity, informality, and territorial specificity, these traits must be seen as assets for resilience.

To realize this transformation, public institutions must reclaim their roles in shaping and supporting food systems, reversing decades of neoliberal neglect, and establishing inclusive, accountable, and power-aware governance that prioritizes supply chains capable of delivering healthy, diverse, and culturally appropriate food for all.

Traditional and informal food actors must be empowered —not merely accommodated— through policies, investments, and research that recognizes their critical role in sustaining diverse, adaptive, and resilient food systems. This requires breaking with the bias toward formal, industrial supply chains and redirecting public support toward the actors and practices that ensure access, biodiversity, and social equity.

Prioritizing local and territorial markets shifts the focus from exports and elite consumption to meeting the everyday food needs of the population. This strengthens the circulation of diverse foods through small-scale infrastructure, short transport routes, and community-based distribution. Redirecting public investment toward these markets is a strategic way to improve food access, support biodiversity, and reduce dependence on fragile global supply chains.

Reducing concentration in food supply chains requires proactive measures: enforce antitrust rules with a food systems lens, limit harmful mergers, and support small-scale and cooperative actors through procurement, tax incentives, and fair market-access policies that redistribute power across the chain.



Prioritize public investment, procurement, and subsidies to support

TRADITIONAL AND INFORMAL ACTIVITIES

that serve local markets

Support

PUBLIC AND COMMUNITY FOOD SPACES

(public grocery stores and canteens, community kitchens), expanding healthy food access for all.

Confront

CORPORATE CONCENTRATION

and predatory and abusive practices to ensure fair markets and strengthen diversity.

Develop inclusive

FOOD SAFETY

regulations recognizing traditional and informal systems, replacing punitive standards with supportive systems.

Recommendations

1

Prioritize support for traditional food system activities that serve local markets. To ensure access to diverse, nutritious, and culturally rooted foods, public policy must shift support toward traditional post-production actors who feed local populations. This means reorienting subsidies and investments toward infrastructure for processing, storage, and distribution that meets the needs of traditional supply chains; aligning land, water, innovation, and health policies with the priorities of small-scale actors; and promoting biodiversity by valuing traditional knowledge in food processing, preservation, and marketing.

Support informal food system activities by recognizing their potential for biodiversity and social inclusion.

Informal food actors—including street vendors, traders in traditional markets, and intermediaries—play a vital yet undervalued role in feeding cities and supporting local biodiversity. Instead of forcing formalization, public policies should secure their rights, include them in decision-making, and invest in research that makes their contributions visible. Flexible regulations, legal recognition, tailored public investment, and their integration into urban planning can help unlock their full potential for equitable and biodiverse food systems.

 \bigcirc

Public and community-supported food spaces—such as grocery stores, canteens, and community kitchens—

should be recognized as part of the essential infrastructure of care and the food commons. One important way to ensure their success is through partnership with traditional and informal food actors: vendors, processors, and small-scale suppliers who already sustain everyday food access. When these spaces connect with traditional markets, employ informal vendors, and draw on local knowledge of preparation and distribution, they can guarantee dignified access to healthy food, create decent livelihoods, and reinforce inclusive and resilient supply chains.



Develop food safety regulations adapted to traditional and informal food system activities. Current food safety regulations often reflect industrial models that exclude traditional and informal actors—despite their central role in feeding much of the population. Replacing punitive, one-size-fits-all standards with inclusive, risk-based approaches is essential. This includes investing in decentralized food safety infrastructure, creating flexible certification and participatory guarantee systems, involving informal actors in co-regulation processes, and prioritizing supportive interventions—ensuring food safety without sacrificing food access or livelihoods.



Promote cooperatives and collective management in traditional and informal supply chains. Cooperatives and collective structures can help small-scale food actors overcome marginalization by pooling resources, sharing infrastructure, and negotiating better terms. Rather than imposing formalization, governments should create enabling conditions through public investment in shared facilities, targeted training, tax incentives, and inclusive procurement.



Reorient public procurement and market interventions toward traditional and informal food systems.

Governments can strengthen existing food systems by shifting procurement, pricing, and reserves to support small-scale producers and traditional markets. This includes sourcing fresh food for public programs from local actors, setting minimum prices for biodiverse crops and goods, and creating decentralized food reserves stocked through territorial supply chains—boosting food access and economic stability where it's needed most.



Prioritize getting more sustainable and healthier foods to local markets and those who need them most.

Nutritious, biodiverse, and so-called superfoods often bypass local communities in favor of export or elite markets, reinforcing inequalities in access to healthy diets. To reverse this, governments should subsidize the consumption of agroecological and local foods in low-income areas and offer tax and regulatory incentives to vendors and markets that distribute them—especially within traditional and informal food systems.



Inclusive governance of food supply chains. Governance systems must move beyond corporate-led models to include and empower traditional and informal actors. This means institutionalizing their participation in decision-making spaces, creating observatories to monitor their needs, and supporting their political organizing.



Confronting the concentration of power in post-production food supply chains. To counteract the harmful impacts of corporate dominance over processing, distribution, and retail, governments must reform competition laws to prioritize equity and food system diversity. This includes blocking harmful mergers, introducing deconcentration policies such as quotas and tax incentives for small actors, and ensuring the participation of traditional and informal food system representatives in regulatory decision-making.



Combating predatory and abusive practices in food supply chains. To protect small-scale and traditional actors from exploitative business practices, governments must establish clear rules and enforcement mechanisms to prevent contract abuse. This includes defining and sanctioning unfair practices, regulating payment terms, ensuring contract transparency, creating public observatories to track commercial behavior, and establishing ombudspersons and dispute resolution systems tailored to the needs of small and informal actors.



Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation

Emma McDonell

Introduction

Growing interest in neglected and underutilized species (NUS) among funders of major food-, agriculture-, and environment-related initiatives offers opportunities for building a food system more centered around environmental sustainability, diet quality, and cultural relevance that can adapt to an era of escalating climate extremes.

But increased support for NUS also raises concerns about commercialization, elite appropriation, and the risk of marginalizing traditional growers. This brief analyzes the status of NUS within the food system and policymaking, making the case that an overly technical approach combined with contradictory visions of the future of these species undermines the far-reaching potential of NUS to address urgent food system challenges.

The **brief proposes more structural and power-centered** understandings of NUS and policy recommendations that position NUS as key elements in food system structural transformations.



Diagnosis

Survival Crops or Superfoods? Assessing the Status of NUS in our Food Systems

NUS, in short, are **species that have received little attention** from researchers, development initiatives, and policymakers when compared to major commodity crops. These species often have impressive nutritional profiles and thrive in harsh environments, marginal soils, and low-input agricultural systems (Farooq & Siddique, 2022; Padulosi et al., 2011). While NUS can be defined in different ways, we use the term to refer to neglected species that are highly nutritious, hardy, and embedded in local food systems.

Communities continue to grow NUS for socio-cultural, religious, culinary, nutritional, and agronomic reasons. Often these species play important roles in local agro-ecologies and regional cuisines and can help forge collective identities and social solidarity (Meldrum & Padulosi, 2017; Sileshi et al., 2025). In some cases, NUS provide a vital nutritional safety net that helps under-resourced people get by in times of need (IFAD, 2021; Hunter et al., 2019).

Despite their nutritional and agronomic benefits, in many contexts production and consumption of NUS has declined as commodity agriculture expands and aggressive marketing of ultra-processed foods (UPFs) undermines demand for local NUS (Glatzel et al., 2025). While political-economic factors make NUS less available to under-resourced populations, a number of initiatives are positioning NUS as "superfoods" in luxury food markets. This is a defining paradox for NUS today: under-resourced populations that historically relied on these species produce and consume less of them, while, at the same time, we see the rise of export-focused supply chains for many of these same species (Andreotti et al., 2022; McDonell, 2025).

While major food and agricultural funders have shown growing interest in NUS-related initiatives in the past two decades, **the dominant approach to NUS is technical in nature**, focused on identifying and addressing discrete agronomic and economic hurdles to "scaling up" their production and consumption. For instance, NUS compendiums often list specific agronomic problems limiting each species (e.g. low yields), calling on plant breeders to overcome these obstacles. But incorporating NUS into the dominant apparatuses for seed research and marketing will likely entangle these "improved" NUS varieties in intellectual property considerations, which may undermine their ability to benefit existing NUS eaters and growers. Framing NUS as "technical solutions" can reproduce many of the same food system issues NUS advocates seek to remedy.



Power Analysis

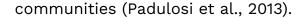
Structural Inequities, Marginalized Producers, and the Political Economies of NUS

Paying more attention to NUS does not inherently threaten the status quo in structural ways, and NUS can be integrated into the same forms of research and development that this report critiques. We suggest that understanding the ways power shapes the food system and NUS specifically points us toward a more compelling and coherent vision that locates NUS within a structural transformation of food systems.

Communities that cultivate NUS are among the world's most marginalized, facing social, economic, and political exclusions (Raneri et al., 2019). These crops are primarily grown by smallholder farmers—often women, Indigenous groups, or ethnic minorities—many of whom have been pushed onto marginal lands due to historical land dispossession and contemporary land grabbing (Gruère et al., 2006). NUS persist because these communities have sustained them through cultural and ecological knowledge despite limited access to land, water, infrastructure, credit, or political representation. Efforts to "mainstream" NUS without addressing the resource and power inequities these producers face risk failing farmers and falling short of broader food security goals.

Infrastructural and policy support for agriculture overwhelmingly favors large-scale agribusiness and global commodity supply chains, diverting public and private investment away from smallholder farmers and non-commodity crops (Clapp & Fuchs, 2009). At the same time, undermining local food systems creates new markets for corporate food products and convenient UPFs, making the "neglect" of these species profitable (Baker et al., 2020; Wood et al., 2023). Insufficient processing technologies, storage facilities, irrigation infrastructure, refrigeration facilities, and transportation systems pose major barriers to scaling up NUS production (Padulosi et al., 2011; Raneri et al., 2019). The power of agribusiness lobbies and corporate control over agricultural technologies and intellectual property rights further entrenches these inequalities (Vivanco, 2022). For instance, NUS-related agricultural research tends to focus on incorporating NUS germplasm into the current plant breeding-IP apparatus, which generates proprietary "improved" seeds and undermines traditional seed-saving and exchange institutions based in traditional knowledge.

The export-led development model championed by government ministries focused on economic growth, neoliberal policies, and agro-exporters positions NUS not as essential tools for national food security or essential elements of larger agro-ecologies, but rather as potentially lucrative exports (McDonell, 2020). Efforts to consider the potential of NUS differently (e.g. malnutrition alleviation) face an uphill battle given the economic and political power behind the actors advocating for NUS as exports. At the same time, many smallholder farmers who produce NUS cannot turn down the possibility of better farm incomes that export markets promise, thus creating a tension between the desire to earn cash incomes and provide high quality nutrition to local

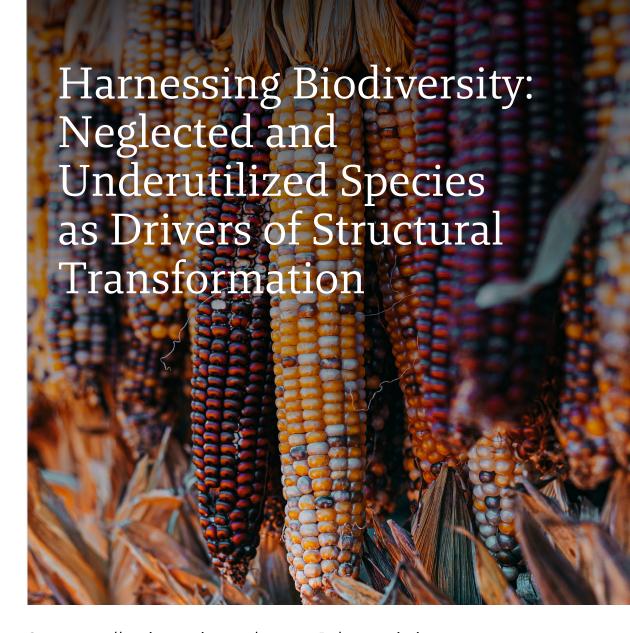


Transforming local agricultural biodiversity into high-value exports appears to offer a compelling economic opportunity for smallholder farmers that diverges from the green revolution's paradigm replacement of local crops with high-yield varieties of staple commodities (Kodirekkala, 2024; Padulosi et al., 2011). But this approach can make the food inaccessible to local eaters and incentivize unsustainable production practices, nor does it guarantee lasting benefits for smallholder farmers (Andreotti et al., 2022; McDonell, 2025). This model is likely to reproduce many of the same dependencies and risks that standard export agriculture generates while possibly undermining access to essential nutritional resources at the local and national levels, unless states assume responsibility for providing stable markets and fair prices for farmers.

Vision

Power, Policy, and Plants: Reclaiming Underutilized Species in a Changing Food System

We seek to build a future where NUS are not seen primarily as prospective high-value export commodities but as essential aspects of regional food systems, offering nutritious and culturally meaningful food while helping build more robust and sustainable agricultural systems. With this in mind, we must work to make NUS affordable and readily available to those who need them most, while also offering farmers a fair price for their work. Our recommendations seek to reconcile these competing aims. In particular, we suggest policies that broadly strengthen the political voices of existing NUS producers and local eaters, ensure the affordability of NUS, and guarantee farmers stable markets and fair prices. To achieve these goals, states must explicitly build access to and procurement of NUS into their larger food system policies.



Support collective action and

SECURE THE RESOURCES

(land, water, technology) NUS farmers need

DIRECT STATE INVESTMENT AWAY FROM EXPORT

-oriented agriculture and towards domestic NUS supply through public procurement and subsidies. Bolster existing

MECHANISMS THAT DISTRIBUTE NUS TO UNDERRESOURCED POPULATIONS

such as informal and traditional markets.

Scale NUS through supporting

PUBLIC, PARTICIPATORY INNOVATION

in NUS production, processing, and supply chains.

Recommendations

Our recommendations seek to move beyond technical fixes and focus on changes in how agricultural investment, food distribution, and decision-making are structured. We must push for policies that help address the structural issues that have sidelined NUS and NUS producers while ensuring that these foods are both affordable and attractive to consumers.

Support collective action and secure the resources

(land, water, technology) NUS farmers need. Building up NUS production must be tied to strengthening the political voices of the communities that have preserved these crops while simultaneously developing policies that address resource inequities. Moving beyond technical approaches to NUS means ensuring that communities that produce NUS have sufficient quality land, water, and technology. In some contexts, this may mean land redistribution, in others, ensuring access to irrigation infrastructure. In all contexts, we must support farmer organizations and collective action that seeks to meet these needs. Democratically run farmer associations can help create mechanisms for communicating farmer demands to public officials and holding public officials accountable. At the same time, these organizations are crucial for aggregating supply from many small farmers and can enable measures like state procurement of NUS.

Identify strategic NUS and subsidize their production.

While many countries subsidize cheap staple crop production, we suggest reorienting state agricultural funding towards healthy foods and sustainable crops produced by historically excluded farmers. Policymakers should work with stakeholders through participatory processes to identify key NUS at national or sub-national levels that offer nutritional benefits, climate resilience, and cultural relevance. Production of these species should be subsidized in order to encourage farmers to cultivate them while absorbing some of the risks farmers face, as well as to ensure that they remain affordable to all eaters.

3

Rethink food innovation: Scale NUS by supporting public, participatory innovation. Collaborations between researchers, innovators, and supply chain actors can help pave the way for appropriate processing technologies and convenient preparations that help scale up NUS production while preventing the accumulation of power in the hands of a small number of large processors. Policymakers should support efforts to develop affordable small- or medium-scale processing technologies, while subsidizing them to ensure their accessibility. Participatory technology innovation is key, and innovation investment should go towards technologies that have been developed in partnership with farmers and existing supply chain actors rather than agro-exporters. Further, providing incentive programs, technical assistance, access to capital, and market information can help lessen the risk of investing in NUS processing. While the goal should not be simply to fold NUS into UPFs, creating preparations that offer affordability and convenience can make increasing NUS consumption more realistic and can facilitate their distribution in school meal programs, which often rely on ready-to-eat foods.

4

Design quality standards in a participatory way to promote biodiversity and foreground farmers' needs.

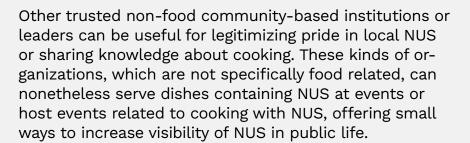
Quality standards are important tools for scaling up the processing and distribution of NUS. However, quality standards can also undermine agricultural biodiversity by encouraging farmers to plant the same varieties. Thus, quality standards should be developed in a participatory fashion with farmer input and should be as flexible as possible to permit intra-species biodiversity. Additionally, their enforcement should include efforts to incentivize the production of non-marketable varieties that nonetheless have social or agronomic values. This can mean supporting conservationist farmers, i.e. specific farmers who are paid to cultivate many varieties as a sort of payments for ecosystem services (PES) scheme. Alternatively, processing technologies can help provide uses for non-standard varieties.

Direct state investment away from export-oriented operations and towards state procurement of NUS. In
many contexts across the Global South, export markets
have been prioritized over internal markets. We recommend developing public procurement programs for NUS,
introducing strategic NUS into state welfare schemes,
and guaranteeing farmers market rates for their products. This also means building up public buying supply
chain infrastructures and, in some cases, publicly owned
processing facilities or public-private partnerships to facilitate processing, storage, and logistics. School breakfast and lunch programs should include regional NUS,
which can be achieved and supported by decentralized
procurement mechanisms (Hunter et al., 2019).

Support and bolster traditional and informal markets and existing supply chain actors and mechanisms that distribute NUS to under-resourced populations. In many cases, traditional and informal markets, food stalls, or community restaurants have provided spaces where NUS are bought, sold, and served. Yet these spaces are often underfunded, lack basic refrigeration infrastructure, and suffer from perceptions (sometimes real, sometimes imagined) of unhygienic practices. Here we echo the recommendations made in the supply chains chapter (Brief 5), noting that informal markets and traditional supply chains have been primary spaces for the distribution of NUS and associated culinary traditions, and are critical sources of fresh, healthy, culturally relevant foods. Better support and infrastructure (especially sufficient refrigeration) for these spaces can also help overcome negative associations between NUS and unhygienic practices.



Root NUS in community power. Public policy and development initiatives should partner with community leaders and existing community-based initiatives. Identifying community leaders at local or regional levels along with trusted local institutions willing to partner on NUS promotion can help tailor promotion to local and regional contexts. Community kitchens or other kinds of food-related initiatives can often benefit from financial and other resources while also offering the potential for NUS promotion. These kinds of partnerships should be prioritized.



Develop dietary guidelines that explicitly include NUS.

National dietary guidelines should explicitly include NUS while considering regional and local production systems and regional dietary preferences. This can help guide consumer behavior and legitimize NUS health claims and, more importantly, can also serve as references for public policies while supporting public procurement strategies.

Promotional campaigns for NUS should enlist the help of chefs, food marketers, community leaders, and culinary movements when relevant to create attractive packaging. Nutritional education is not enough. Healthy NUS must compate with ultra processed foods, which of

must compete with ultra-processed foods, which often have massive marketing budgets to build their appeal. Creating compelling packaging and/or marketing campaigns for NUS products can help make these foods more desirable.

In the case of marketing to children in particular, colorful and exciting packaging can make a difference. In some contexts, existing or emerging culinary movements already seek to build pride in local foods. These grassroots efforts should be supported and bolstered, while ensuring that they remain inclusive and focused on access for all rather than solely on building elite gastronomy. Partnerships with well-recognized chefs and culinary influencers who are working to increase pride in regional cuisines can help rework negative associations while providing culinary skills and nutrition education tailored to these foods. While chefs on television programs are an important site of intervention, it is worth noting that younger generations also learn about food and cooking from culinary influencers on social media apps, and these kinds of influencers are also potential partners.





Chris Vogliano

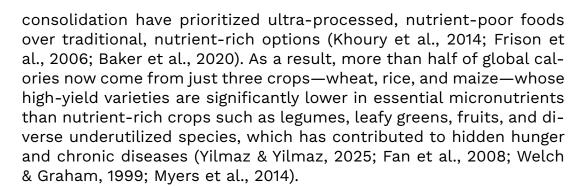
Introduction

Access to healthy, affordable diets is a fundamental human right. Yet, amid mounting nutrition-related chronic diseases, widening inequities, and escalating environmental pressures, this **right remains out of reach for billions**. Healthy and sustainable diets, as defined by the FAO and the WHO (2019), are those that promote health, prevent all forms of malnutrition and non-communicable diseases, minimize environmental impacts, preserve biodiversity, and support cultural traditions by emphasizing a variety of unprocessed or minimally processed foods, while remaining accessible, affordable, and culturally acceptable for all stages of life. Herforth et al. (2025) introduced the Healthy Diet Basket (HDB) to globally benchmark the cost and affordability of such diets, revealing a median daily cost of \$3.68 (USD) per person, a price that is unattainable for most in low-income contexts. There is therefore is an urgent need to implement systems-based policies to achieve the right to healthy and affordable food for all.

Diagnosis

Why Healthy and Affordable Diets Remain Out of Reach

Despite progress in reducing extreme hunger, industrialized food systems have fundamentally undermined the accessibility of healthy, affordable diets, especially in the Global South. The Green Revolution's emphasis on monocultures and agrochemical inputs have reduced crop diversity and ecosystem health, while global trade and corporate



These dietary shifts are not a matter of individual choice or knowledge, but the **consequence of entrenched power inequities**. Large agribusinesses and food corporations, through marketing, lobbying, and policy influence, have made ultra-processed foods widely available and artificially cheap, displacing healthier and more diverse traditional foods (Baker et al., 2020; Clapp, 2022). Trade policies and subsidies further favor staple commodities over fruits, vegetables, and nutrient-dense foods, deepening nutritional inequities and eroding cultural food traditions (Sukanya, 2024; Brenton et al., 2022; Jacques & Jacques, 2012).

Affordability remains the central barrier. Nutrient-rich foods are often far more expensive and less accessible than calorie-dense staples or ultra-processed products, particularly in low-income regions where food accounts for most of the household budget (FAO, 2023; FAO et al., 2024; Willett et al., 2019). These challenges are compounded by gender discrimination, weak land rights, and the enduring impacts of colonization, all of which deepen inequities (Njuki et al., 2022; Bradley & Herrera, 2016; Malli et al., 2023). Addressing these systemic barriers through structural, systems-based policy change is essential to fulfilling the right to healthy, affordable diets for all.

Power Analysis

Power, Profit, and Plate: Why Food Systems Are Currently Failing

Decisions about what is grown, processed, subsidized, and marketed are shaped by historical legacies, corporate interests, and political priorities, which consistently prioritize profit over nutrition, equity, and agricultural and cultural resilience. Centuries of colonial rule in Africa, Asia, and Latin America prioritized the production of export-oriented cash crops for the Global North, such as sugar, coffee, and cotton, which displaced diverse, nutrient-rich local food crops and eroded traditional food systems (Pingali, 2007; Ndlovu-Gatsheni, 2013; FAO, 2024; Figueroa-Helland et al., 2018).

Corporate Consolidation and Policy Capture in Food Systems: Today's global food system is shaped by a handful of transnational corporations that dominate the production of seeds, agrochemicals, and food processing and retail –a system built on colonial legacies and a concentration of power over what foods are produced and consumed (Clapp, 2022; Wood et al., 2021). This consolidation favors ultra-processed, branded products, marginalizes small producers, erodes local

food cultures, and restricts dietary diversity, especially in the Global South where traditional markets are displaced (Igumbor et al., 2012; Lacy-Nichols & Williams, 2021).

Corporate influence extends beyond markets into policy and science, as companies use lobbying, targeted marketing, and the co-opting of nutrition science to delay or weaken regulations in favor of their commercial interests (Fabbri et al., 2018; Nestle, 2016; Lopez-Moreno et al., 2025). For example, industry-funded research is more likely to produce favorable results, influencing dietary guidelines and public perceptions, while tactics like "health-washing" and "nutritionism" allow ultra-processed foods to be marketed as healthy despite their risks (Clapp & Scrinis, 2016; Nestle, 2018).

Subsidy Misalignment: Globally, public subsidies overwhelmingly favor commodity crops and industrial livestock, making the raw ingredients for ultra-processed foods artificially cheap and abundant, while fruits, vegetables, and other nutrient-rich foods remain under-supported and relatively expensive (Coady et al., 2022; Miller et al., 2023; Clapp et al., 2021; FAO et al., 2023). These misaligned subsidies fuel poor diet quality, obesity, and malnutrition, while hiding the true costs in externalities, such as environmental degradation and rising non-communicable diseases (Springmann et al., 2018; Willett et al., 2019).

Disruptions from Food Aid and Biotechnology: While intended to address hunger, international food aid and biotechnology often undermine local food systems and reinforce dependency on external actors (Barrett & Maxwell, 2005; FAO, 2019; IPES-Food, 2016; Stone & Glover, 2017). Programs like USAID prioritize exporting U.S. commodities over local sourcing, which undercuts local producers and erodes traditional food cultures. Biotech solutions, such as Golden Rice, divert resources and attention from agroecological, biodiversity-based approaches (IPES-Food, 2016; La Via Campesina, 2019; Stone & Glover, 2017). Initiatives like the Alliance for a Green Revolution in Africa (AGRA) promote high-yield seed varieties and chemical fertilizers, often marginalizing small-holder farmers and concentrating power among external actors, which further weakens local agency and undermines biodiversity (Vicedom & Wynberg, 2024).

Marginalization of Voices and Knowledge: Women, Indigenous Peoples, and other marginalized groups are often excluded from food system decision-making, limiting their influence over food environments and perpetuating inequitable access to land, finance, and technology (HLPE, 2023; FAO, 2023). Traditional Ecological Knowledge (TEK) is routinely sidelined by Euro-Western narratives and policies, reinforcing colonial power structures and eroding biocultural diversity (Carroll et al., 2025; Ludwig & Macnaghten, 2020).



Vision

Nourishing Change: New Strategies for Equitable, Biodiverse Diets

It should be possible for everyone to enjoy affordable, nutritious, and culturally relevant foods as a recognized human right, safeguarded by universal nutrition guarantees and targeted subsidies for vulnerable populations. Local economies can thrive through community-driven innovation and regionally adapted food systems, and healthy foods should be the standard in schools, hospitals, and public institutions.

Chronic malnutrition and diet-related diseases will dramatically decline when we have equitable, transparent food governance and mandatory corporate accountability that prioritizes nutrition, environmental sustainability, and ethics over profit. Diverse community-led food councils can guide policy, while subsidies can decisively support nutrient-rich, locally grown foods over ultra-processed products. Traditional ecological knowledge can and should shape dietary guidelines and education, and women, Indigenous Peoples, and marginalized groups should have equal land and resource rights, actively shaping food-system decisions. Environmental sustainability should be central to the design, governance, and daily functioning of food systems, with agroecological and biodiversity-friendly practices protecting natural resources.





FISCAL AND REGULATORY

Measures for Healthy and Affordable Diets

Guarantee

UNIVERSAL

Nutrition

COMMUNITY-LED

Transformation

Embed

EQUITY

in Food Systems



Achieving long-term systems-level change in food systems demands coordinated action across fiscal, regulatory, social, and community sectors. These key policy recommendations across four areas are mutually reinforcing, designed to ensure healthy, affordable diets for all.

Fiscal and Regulatory Measures for Healthy and Affordable Diets

Fiscal policy and regulation can make healthy, minimally processed foods more affordable and accessible than ultra-processed options. Strong legal mandates, targeted subsidies, and strategic procurement can shift food environments while supporting local economies.

Affordability

- Tax sugary drinks and ultra-processed foods and use the revenue to subsidize local fruits, vegetables, legumes, nuts, and whole grains.
- Reform agricultural subsidies to support diverse, nutrient-dense crops from local farmers, lowering costs for schools, hospitals, and community programs.

Accessibility

- Set and enforce nutrition standards for public institutions that limit ultra-processed foods and require fresh, culturally relevant options.
- Use public procurement and targeted subsidies to ensure healthy foods reach marginalized and food-insecure populations.

Desirability

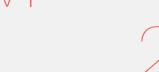
- Mandate front-of-package nutrition labeling and restrict unhealthy food advertising, especially to children.
- Launch coordinated public campaigns to position healthy foods as the default choice.

Availability

 Legislate local, nutritious sourcing in public food programs, supporting regional producers year-round.

Convenience

- Invest in local processing, freezing, and meal preparation to make healthy foods easy and appealing.
- Ensure healthy, minimally processed foods are the default in public institutions.



Guarantee Universal Nutrition

Guaranteeing access to healthy diets as a basic right can reduce health inequalities, prevent chronic disease, and lower long-term healthcare costs. Public procurement, regional sourcing, and fair pricing can make nutrient-rich foods accessible to all.

- Establish a Universal Basic Nutrition Guarantee providing free or subsidized healthy foods, especially for children through schools and community programs.
- Transform Food-Based Dietary Guidelines (FBDGs)
 into binding policies that shape procurement, subsidies, and food production.
- Develop region-specific dietary guidelines tailored to local environments and cultures.
- Integrate biodiversity, traditional ecological knowledge, and equitable access into national dietary guidance.
- Guarantee minimum prices for nutrient-rich foods and support farmer cooperatives to stabilize incomes and supply.

Community-Led Transformation

Cities and communities can drive change through urban agriculture, local food processing, and digital innovation. Localized strategies improve access, affordability, and agricultural resilience while keeping economic benefits, cultural traditions, and decision-making power rooted in communities.

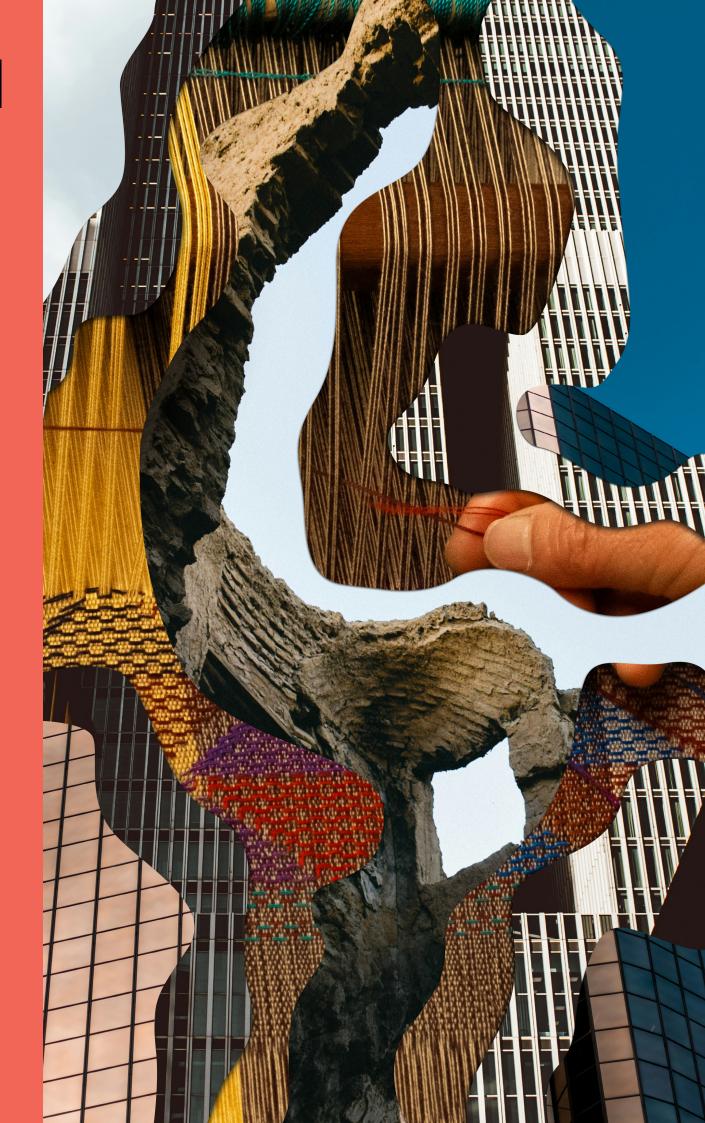
- Invest in local processing, cold storage, and distribution infrastructures to expand supply of affordable, minimally processed foods.
- Co-create community food programs and expand access to culturally relevant ready-to-eat meals.
- Develop decentralized, digitally enabled supply chains connecting smallholders directly with consumers.
- Integrate healthcare and food systems to provide preventive, culturally responsive nutrition interventions.



Embed Equity in Food Systems

Equity, cultural heritage, and policy integrity must be embedded across all food-system policies in order to dismantle systemic barriers and promote resilience. By implementing these mutually reinforcing policies with equity at their core, governments, communities, and stakeholders can transform food systems into engines of health, sustainability, and resilience for current and future generations.

- Guarantee equal land and resource rights for women, Indigenous Peoples, and marginalized groups.
- Legally protect Indigenous seeds, land, and food cultures; ensure fair benefit-sharing from food innovations by reducing barriers from restrictive intellectual property claims and promoting open, community-driven access to knowledge and resources.
- Integrate traditional foodways into national dietary and education guidelines.





Power Shift: Radical Restructuring of Food Systems Governance

Jessica Duncan

Introduction

There is widespread agreement that our food systems need to be radically transformed (Webb et al., 2020). The problem is how to reimagine and rebuild these systems. A key part of the answer is getting the governance right. Food systems governance refers broadly to the way food systems are organized. In practice, the governance of food systems is marked by overlapping, and at times competing, networks of institutions, norms, rules, and actors that draw on different resources and advance different visions and values. To further complicate things, food systems are interconnected with other systems, notably water, ecological, and climate systems, but also trade and finance systems as well as technological systems, and thus to their systems of governance as well. The result is a fragmented and diffuse tangle of relations that makes it very challenging to achieve transformative change. Radical innovations and political courage are required to reshape the way food systems are governed in order to facilitate just and sustainable food systems.

Diagnosis

Broken by Design: Fragmented, Reductionist, and Captured by Corporate Power

Within that messy tangle, fragmentation, weakened multilateralism, corporate influence and concentration, and a reductionist approach to science further restrict transformative governance, not least because of the diverse ways they function to reinforce power inequities and the status quo.



Hyper-fragmentation across food governance

Fragmentation is a defining feature of global food governance. Fragmentation refers to the "patchwork of public and private institutions that differ in their character, constituencies, spatial scope, subject matter, and objectives" (Zelli, 2011, p. 255). However, just as a patchwork house, constructed by different people, at different times, with different goals, will lack functionality and stability, so too does the fragmented architecture of food governance. We need visionary architects. But we also need to downsize by prioritizing inclusive, effective democratic processes and holding powerful actors to account.

The proliferation of multistakeholder food governance

One driver of this fragmentation is multistakeholder governance, a process whereby "intergovernmental legal frameworks and institutions are embedded as a core, but are not the sole and sometimes not the most crucial, component" (WEF, 2010, p. 7). Such processes allow "powerful transnational corporations, their platforms and associations to direct international and national policy-making, financing, narratives, and governance while promoting corporate-friendly, false solutions to food systems in crisis" (Chandrasekaran et al., 2021, p. 1). While claiming legitimacy on the basis of broad participation, multistakeholder governance presents additional threats to already weakened democratic processes and multilateralism (McKeon, 2021; Montenegro de Wit et al., 2021) through a lack of clear rules and mechanisms of accountability and a failure to address asymmetries of power.

Expanding corporate influence in and across food governance

Multistakeholder governance is driven, in part, by corporate actors. Corporate concentration and the corresponding influence of corporations over the governance of food systems further **undermines democratic decision-making and serves to prioritize growth and profit** over public health, fair distribution of resources, environmental sustainability, and food security. The lobbying capacity and budgets of agri-food firms ensure access to decision-makers and, in turn, direct influence over public policy.

Reductionist science and techno-capitalist narratives dominate food governance

In the face of planetary emergency and the complexity of food systems governance, pluralism is required, especially when it comes to knowledge. Claims to knowledge are also claims to power. At a moment where truth and fact are being actively reimagined, it can be tempting to reinforce the primacy of science. But analyses of the politics of knowledge make visible that scientific knowledge is not neutral, but rather is shaped by power relations, historical contexts, and institutional biases (Turnhout, 2024). While science is critical to supporting a just and sustainable transformation, scientific knowledge alone is not enough. At present, science-policy interfaces for food systems are often too reductionist and linear, ignoring important knowledge, including traditional and Indigenous knowledge, that can foster more just transformations. Further, the failure of policymakers to respond



to the science suggests a need to urgently reform the relationship between knowledge and decision-making.

Power Analysis

Foundational Power Inequities in Food Governance

A relational understanding of power is crucial for understanding and addressing power inequities across the architecture of food governance. Such an approach challenges conventional views of power as a fixed resource held by dominant actors and instead conceptualizes it as dynamic, negotiated, and embedded within social relations (Avelino & Wittmayer, 2016). This perspective aligns with broader governance literature emphasizing power as co-constituted through interactions among multiple actors, institutions, and discursive frameworks (Gaventa, 2006; Haugaard, 2012). Understanding the types of relations (i.e. who has power over whom, who has more or less power, what different types of power exist), and how they manifest is critical.

At the same time, the polycentric and fragmented nature of food systems governance, from the local to the global, with networks of formal and informal relations and diverse configurations and alliances, serve as obstacles to transformation. There are no single disruptive nodes that can provoke just transformation within these systems. While there are actors who have greater power over other actors (e.g., corporate actors, wealthy governments), and who could, in theory, instigate transformative change in the organization of food systems, they are the same actors who benefit significantly from the fragmentation and organization of the existing systems of governance and are thus, at best, inclined to make incremental steps and, at worst, highly motivated to maintain the system as it is.

We are at an impasse: we need to simultaneously dismantle, restructure, and rebuild food governance systems. We will never overcome power relations, but we can restructure them. Challenging current power inequities across food systems governance requires confronting the entrenched patriarchal, racist, colonial, and capitalist structures that determine who makes decisions, whose voices are heard, and whose interests are prioritized. Governance is not neutral—it often reflects and reproduces existing hierarchies. To transform governance, we must build inclusive, democratic systems rooted in justice and self-determination. Colonial structures persist in global food systems due to trade agreements, development assistance (and in the rapid retraction of this aid), and intellectual property regimes. Challenging this means recognizing Indigenous sovereignty, respecting traditional ecological knowledge, and rejecting governance models that treat food, land, and seeds as commodities. It means making space for women, LGBTQIA+, and youth and their leadership. There are models that offer hope and guidance.

Food sovereignty, which asserts the right of people to define their own food systems, resists corporate and state control while centering traditional ecological knowledge, seed saving, and community



self-determination. **Agroecology** values biodiversity, local knowledge, and ecological harmony, and is often practiced by women and small-holder farmers who are systematically marginalized by industrial farming and global trade policies. By addressing land reform and investing in agroecological education and farmer-to-farmer networks, communities can better resist the dominance of multinational agribusinesses and monoculture farming systems that exploit land and labor. Supporting unions and worker cooperatives, and demanding that governments **enforce labor protections**, can call attention to and challenge the racial and gendered hierarchies embedded across the food system and particularly in food work.

While global norms and coordination are critical here, it is increasingly hard to argue that the existing tangle of global governance organizations and actors are capable of driving the transformative change required. Attention to other levels and scales is critical. Examples of local and territorial governance arrangements can be instructive and hopeful here, and can take the form of participatory councils, people-led food policy strategies, or quotas that ensure representation in decision-making processes.

Vision

Governance Reimagined: A Just Future for All

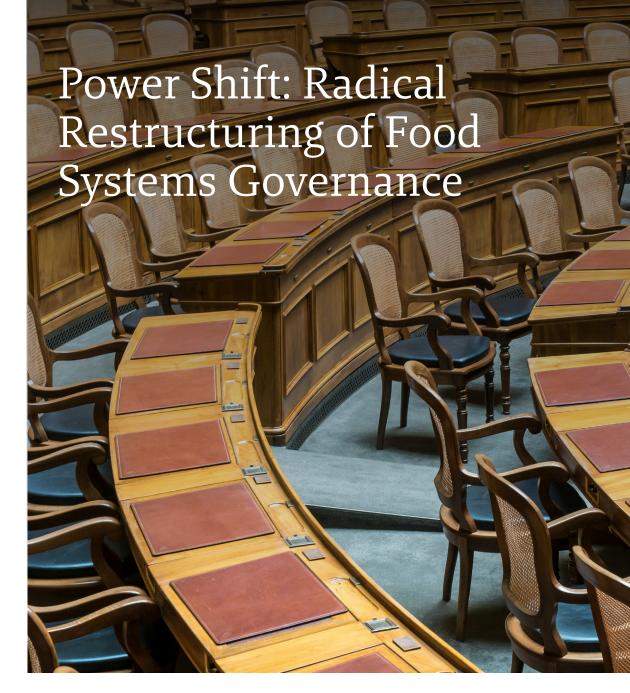
Our vision is that the governance of our food systems reflects an integrated and joined-up, whole-of-government approach that connects across multiple levels (from the local to the global). Representatives in decision-making spaces bring forward a plurality of views and are fairly compensated and supported for their engagement. Decision-making bodies, at all scales, are composed of representatives of those most affected by food policies, and mechanisms are in place to ensure that the most affected are directly and meaningfully shaping these policies. The phrase "most affected" refers to populations or individuals who experience the greatest negative impact or violation of rights due to policies, actions, or systemic challenges. This concept is used to prioritize intersectionality and ensure that interventions are targeted effectively to engage and protect those who are likely to disproportionately experience negative impacts, including women, Indigenous Peoples, racialized minorities, LGBTQIA+ people, young, older, and poorer people, but also food producers (i.e. farmers, pastoralists, and fisherpeople).

Careful attention is paid to power inequities between representatives and strategies are developed, implemented, evaluated, and revised accordingly to ensure effective participation. Intersectional and gender-transformative approaches are the norm. Decision-making bodies commit to principles of collective stewardship, prioritizing social and ecological well-being over profit. In practice, this means public policies address critical questions of resource distribution, farmer education (including apprenticeships), cooperative farms, seed-saving networks, and territorial markets that shorten supply chains and reduce dependency on volatile global markets. In developing new policies, the



immediate needs of people and planet are positioned in relation to the needs of future generations. This is further supported with a commitment to longer-term visions and timelines for programs and policies.

Trade policies must be reoriented to strengthen regional food sovereignty, rather than fostering dependency on multinational corporations and export-driven economies. Speculation on agriculture and food should be strictly forbidden. A robust system of support has been developed, tested, and implemented to ensure all food supply chain actors are supported in the transition towards more sustainable modes of production and distribution. The funding for this program should be drawn from a wealth tax and a redistribution of existing subsidies. And international mechanisms capable of holding corporations and states should be accountable for violations of human and ecological rights at all levels.



Α

RADICAL RECONFIGURATION OF GOVERNANCE

that strengthens multi-level democratic multilateralism

Build

ANTICIPATORY AND REFLEXIVE CAPABILITIES

into the design of governance systems

UNLEVEL THE PLAYING FIELD

to prioritize those most affected by food policies

Adopt a

PLURALIST APPROACH TO KNOWLEDGE

that reconfigures relations between science, policy, and practice

Recommendations



A radical reconfiguration of governance that strengthens multi-level democratic multilateralism

The broad architecture for global governance was designed in the 1940s and is no longer fit for purpose. Not only do we need to reconfigure governance, we need to redesign it in ways that are suitable for the future. This is deeply complicated, but possible.

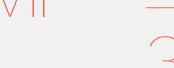
A radical reconfiguration of governance needs to:

- Streamline governance architectures
- Be multilevel to ensure coherence
- Adopt enforceable and effective accountability mechanisms
- Be driven by coalitions of the willing, led by most-affected constituencies

Build anticipatory and reflexive capabilities into the design of governance systems

New capacities are needed to ensure that our systems of governance are capable of advancing transformation in the face of complexity. Traditional approaches to policy and governance have proven inadequate for advancing such transformations. They have failed to anticipate and respond to changes, impacts, complexity, and uncertainty. As a result, policy- and decision-makers have had to fill the roles of responders, fixers, or managers (Kimbell & Vesnić-Alujević, 2020; Mazey & Richardson, 2020). We need visionaries with anticipatory and reflexive capacities.

Anticipation is not about prediction. Following Guston (2014, p. 218) anticipatory governance is defined as "a broad-based capacity extended through society that can act on a variety of inputs" in order to manage emerging innovations while it is still possible to shape their societal trajectory.



Reflexive governance denotes a "mode of steering that encourages actors to scrutinize and reconsider their underlying assumptions, institutional arrangements and practices" (Hendriks & Grin, 2007, p. 332). For food systems, reflexivity relates more specifically to:

the ability of governments [and intergovernmen tal organizations] to engage all food system actors to deliberate over current values and practices, and a capacity to monitor and evaluate, learn and respond as creatively, efficiently and responsibly as possible (Kugelberg et al., 2021, p. 2).

Learning, anticipating, and being able to effectively respond are critical capacities that are currently lacking in the governance of food systems and must be included in the future.

Prioritize the most affected by food policies

Addressing power inequities requires not only redistributing formal authority but also interrogating the structural and discursive mechanisms that sustain inequality (Gaventa, 2006). In turn, addressing power inequities necessitates fostering participatory and deliberative spaces where those most affected by decisions can contest dominant narratives and pursue divergent policy agendas (Duncan & Claeys, 2018). This can be done by:

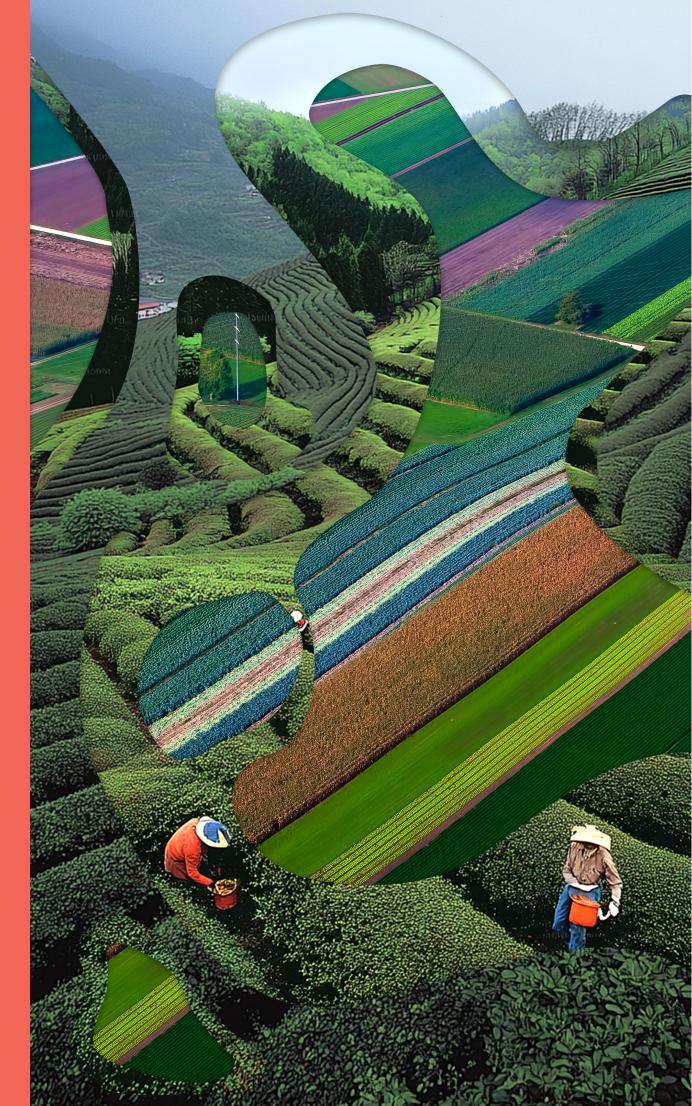
- Undertaking analyses of power relations and making inequities visible.
- Designing and enforcing transparent mechanisms for participation that account for power inequities (i.e. quotas, encouraging participation by more traditionally under-represented actors).
- Ensuring that participants are adequately and fairly resourced and supported.
- Promoting democratic and participatory multilateralism while restricting multistakeholder governance, thereby also reducing fragmentation.
- Holding traditionally powerful actors to account if they seek to undermine spaces where their power is challenged.



Adopt a pluralist approach to knowledge that reconfigures relations between science, policy, and practice

To implement this recommendation, it is critical that science is integrated as one form of knowledge, but not the only form of knowledge. Mechanisms for integrating diverse, uncertain, and, at times, contradictory or conflicting knowledge must be carefully designed and implemented. They must also be robust enough to respond to post-truth political contexts.







Farmers First: Reclaiming Seed Sovereignty for Biodiverse Value Chains

Sayed Azam-Ali

Introduction

The globalization of industrial agriculture has led to farming systems in which seeds saved and resown by generations of farmers have been replaced by crop varieties bred by commercial companies using standardized breeding techniques developed in laboratories and tested under optimal field conditions.

By transferring plant breeding into laboratories and experimental stations, scientists and breeders have developed new crop varieties using techniques in controlled conditions that are beyond the scale, technical skills, or resources of farmers. As a consequence, farmers have lost sovereignty over the genetic resources of their own crops.

Diagnosis

Codifying Control: How Law and Policy Formalized and Privatized Seed Systems

In much of the world, the production and marketing of seeds is strictly regulated by specific laws that protect the trade and variety of seeds. In the 1960s, European seed companies secured "Plant Breeders" Rights (PBR) through the UPOV (International Union for the Protection of New Varieties of Plants) Convention. In 1985, the US Supreme Court extended Patent Law to genetically modified organisms. Legal decisions have reinforced the status of new crop varieties, genes, gene sequences, tissue, plants, and seeds as intellectual property.

The genetic resources and seeds of the world's major crops can now be owned by commercial entities rather than curated by the farmers



who have grown them for millennia. Utility patent protection for plants, plant improvement processes, and related technologies have been prioritized by both public and private entities. Since 1980, there has been an increasing number of applications for Plant Breeders Rights and utility patent applications (Pardey et al., 2013) from a handful of corporate applicants. Between 2001 and 2008 five companies (Monsanto, DuPont, Syngenta, Bayer, and Dow) were responsible for 83.4% of US patent applications (Pardey et al., 2013) and 35% of EU applications between 2003–2007 (Louwaars et al., 2009).

By 2013, six companies (BASF, Monsanto, DuPont, Syngenta, Bayer, and Dow) controlled 75% of the global agrochemical market, 63% of the commercial seed market, and more than 75% of all private sector research in seeds and pesticides (ETC, 2015).

The Cartagena Protocol on Biosafety to the Convention on Biological Diversity (CBD) states that products from new technologies must respect the precautionary principle and allow nations to balance public health against economic benefits. It allows countries to ban imports of genetically modified organisms if they believe that there is insufficient scientific evidence that the product is safe. This means that exporters must label shipments containing genetically altered plant commodities. For the most part, the precautionary principle provides a rationale for developing countries to resist the influence of major seed producers. While 193 member states of the United Nations are signatories to the CBD, four are not. These are Andorra, South Sudan, the Vatican, and the USA, nations for which the precautionary principle does not apply.

Power Analysis

Dispossessing Farmers, Colonizing Seeds: Power Inequities in Global Seed Systems

Addressing structural inequities concerning who controls seed systems and restoring farmers' agency is critical for ensuring biodiverse seed systems that are equitable, sustainable, and resilient. The increasingly technical nature of formal plant breeding means that farmers are disconnected from the seed industry and lack sovereignty over what, how, and when they grow crops.

The concentration of corporate power prevents the transformation of seed systems. The major seed companies now control markets, drive science and innovation, and influence policies. They also own key patents on enabling technologies, exert political influence over trade agreements and seed laws, and impose restrictive contracts on farmers. Researchers, development banks, international NGOs, and philanthropic foundations pursue the agenda set by corporate interests.

The food system has been corporatized, capitalized, and consolidated across the value chain. This has been facilitated through the ownership of crop varieties and the processing and marketing of their products by a few vertically integrated companies. Together, these companies constitute a corporate "agropoly" over a globalized food system and



formalized seed system. Investment, policy, research, legislation, and power have all been transferred from global common ownership as public goods to private goods owned by a small number of corporate interests for profit.

Seeds and their products are now treated as commodities that can be traded for profit. Instead of a global agricultural commons, we now have an increasingly enclosed proprietary rights system. This is underpinned by patents, private licensing contracts for the purchase of seeds, and corporate surveillance of farmers to ensure contractual compliance. Not only are farmers legally prohibited from saving and replanting seeds, but they may no longer own the seeds that they sow.

The decline in public support for plant breeding means that scientists are forced to depend on private funding for their research. Even with public funds, there is now a greater emphasis on research that can generate income for industry rather than meet the wider needs of society. Both public and private research pursues new technologies with commercial applications instead of farmer-led innovation that could yield better outcomes for agrobiodiversity, social inclusion, livelihoods, and the environment.

Fiscal support prioritizes a few commodity crops rather than diverse, nutritious, climate-resilient, and less resource-intensive alternatives. By extension this means that we are rewarding bad diets, incentivizing the production of calorific crops, and subsidizing rich consumers rather than food systems that are better for us and the planet.

Intellectual property rights (IPR) are used to underwrite the accumulation by dispossession that further enclose agricultural commons (Harvey, 2003; Kloppenburg, 1988, 2010). These legal mechanisms facilitate accumulation by "agropolies" based in the Global North at the expense and increasing dispossession of farmers in the Global South (Harvey, 2003; Kloppenburg, 2010; Wattnem, 2016).

Formal plant breeding favors uniformity and yield stability in a few crops. The genetic homogeneity and stability required for registration of plant varieties are developed in research stations that have ideal growing conditions and high inputs of external resources, such as fertilizer, pesticide, and irrigation. These conditions only favor those crops and their varieties that have broad adaptability and yield stability (Louwaars, 2005; Ceccarelli, 2009) rather than those suited to local conditions and preferences.



Vision

Reclaiming Seeds and Restoring Power: Farmers at the Center of Agroecological Futures

The vision for equitable and just biodiverse seed systems requires that farmers regain sovereignty over what crops they grow, how they grow them, and for what purpose they are cultivated. Such a vision is possible because, in much of the world, most crop species are not part of a formal process of regulation and certification. These so-called "underutilized" crops provide an opportunity to build a biodiverse seed system in which seed sovereignty is entrusted to farmers as public goods rather than to corporations as commodities.

Most crop species are not covered by UPOV. Human beings have farmed over 7,000 crops and identified over 30,000 edible plant species. Therefore, most crop species, varieties, and landraces are outside the formal system. Many can be considered as "opportunity crops for the future".

The informal sector will ensure the supply of seeds and access to them for many underutilized crops through farmers' own production, their exchanges with other farmers, or through local markets. These interactions will be guided by social rules and behaviors that have evolved over many generations and are bound to local cultures and traditions (Westengen et al., 2023).

UPOV will not regulate varieties that are not covered or are no longer covered by plant variety protection. Therefore, even plant varieties of mainstream crops that are products of the formal seed system can be replanted by a farmer without authorization from the breeder.

In an era of changing climates, it is clear that production systems based only on major crops and long, complex supply chains are unsustainable. Many mainstream crops lack traits that are crucial for farmers who live in variable environments, seek to reduce reliance on external inputs, or farm in low-input conditions (Azam-Ali, 2021; Azam-Ali & Squire, 2002; Wolfe et al., 2008).

The right to food underpins a biodiverse seed system based on food and seed sovereignty. The right to food is enshrined in the Universal Declaration of Human Rights (UN, 1948). This right is inseparable from those that relate to food security, such as the rights to land, water and seeds, as well as the right to work, which includes the right to association and collective bargaining.

For biodiverse seed systems, farmers must be at the center of decision-making, involved in plant breeding, partners in research, and agents of change. A farmer sovereignty framework that is also based on the right to food and seed sovereignty requires the reforming of legal structures that have thus far privatized the ownership of seeds, research systems that have subsumed farmers' knowledge, and policies that have enabled a food system based on a few staple crops.



Seed sovereignty is central to a biodiverse seed system that ensures equitable access, communal responsibility, local control, a culture of reciprocity, and ethics of care for seed systems (Pimbert, 2022). Seed sovereignty enables an alternative vision to the current commodification of seeds underpinned by intellectual property rights. This is only possible where seeds are treated as part of the global commons supported by greater agrobiodiversity.

Food sovereignty, seed sovereignty, and farmers' rights require **farmers to have the freedom to choose what they grow and how they farm**. This includes control over their seeds. To address power inequities in seed systems, structural reforms are needed to intellectual property laws and UPOV, as well as advocating for collective seed rights, breaking up of seed monopolies, and more public investment.





Embed seed sovereignty within

RIGHTS TO FOOD AND LAND

legislation

Facilitate

MARKET ACCESS

for farmers and producers in biodiverse seed systems

Provide

INCENTIVES FOR FARMERS

and the private sector to produce biodiverse foods Farmer-led

RESEARCH AND KNOWLEDGE

networks for biodiverse seed systems

Community

SEED EXCHANGE

Provide farmers with

TOOLS

to support decision-making for biodiverse seed systems

Policies that incentivize

BIODIVERSE SEED SYSTEMS



Recommendations

1

Embed seed sovereignty within rights to food and land legislation: The right to food should be reflected in policies that ensure seed sovereignty and secure land access for smallholder farmers and their communities. For this, the right to food and seed sovereignty should be embedded within national and international policy frameworks. Integrating seed sovereignty into global legislation is essential for farmers' autonomy and protects them from corporate control and commercialization of seed systems.

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Facilitate market access for farmers and producers in biodiverse seed systems: Market access for nutritious foods and diverse diets is an essential prerequisite for products that are derived from biodiverse seed systems. This requires measures that facilitate trade, reduce risks, and encourage demand for biodiverse foods.

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Provide incentives for farmers and the private sector to produce biodiverse foods. The domination of the global food system by a few corporate players discourages competition between producers and diversification among farmers. Incentivizing the production of more biodiverse foods requires policies, regulations, financial measures, and strategies to stimulate their production, marketing, consumption, and affordability.

4

Farmer-led research and knowledge networks for biodiverse seed systems. Farmer Research Networks offer a model in which farmers are involved throughout the research process. When supported by knowledge networks, Farmer Research Networks can transform research and knowledge exchange in seed systems by combining scientific research with Indigenous and local knowledge. Associated knowledge systems can provide supporting information from scientific and local sources through transparent and freely available formats.



Community Seed Exchange. By building on national and transnational initiatives, Community Seed Exchanges can provide interconnectivity through the physical exchange of seeds and scientific and social capital. They can curate and exchange information on history, objectives, crop types, scale, size, type, and density of seed networks, intellectual property rights, and the policy and legal contexts of seed exchanges.

Provide farmers with tools to support decision-making for biodiverse seed systems. Supporting farmer-centric decision-making for climate-resilient and biodiverse systems requires novel methods, knowledge bases, climate services, and digital tools that retain decision-making and agency with farmers in planning for uncertainty and change. Such tools should provide publicly available and transparent methods to evaluate the potential impacts of climate events, pests, and diseases that can influence how farmers make decisions. They can also enable climate-related decision support systems in suitable formats and languages for local farmers and be interoperable with other digital farming platforms to prevent corporate control of farmers' data and decision-making processes.



Policies that incentivize biodiverse seed systems.

Rather than subsidizing farmers to produce calorific staple crops that are ill-suited to increasingly volatile climates, we need to incentivize farmers to select, breed, cultivate, and conserve the seeds of those climate-resilient and nutritious species that can best meet our future needs. By transferring support from subsidies to public investment in biodiverse seed systems with farmers as decision makers, policies can enable a more equitable and biodiverse food system. They can also support public procurement and biodiverse food stocks, agroecological practices, co-operative ownership of machinery and storage infrastructure, and investment in marginalized groups.

References

Introduction

Álvarez, L., & Coolsaet, B. (2020). Decolonizing Environmental Justice Studies: A Latin American Perspective. Capitalism Nature Socialism, 31(2), 50–69. https://doi.org/10.1080/10455752.2018.1558272

Anderson, M. D. (2024). *Transforming food systems: Narratives of power*. Routledge.

Anderson, C. R., & Maughan, C. (2021). The Innovation Imperative: The Struggle Over Agroecology in the International Food Policy Arena. *Frontiers in Sustainable Food Systems*, *5*, 619185. https://doi.org/10.3389/fsufs.2021.619185

Baker, P., & Demaio, A. (2019). The political economy of healthy and sustainable food systems. In *Healthy and sustainable food systems* (pp. 181–192). Routledge.

Beard, A. (2025, May-June). How to fix our broken food system. *Harvard Business Review*.

Béné, C., Wood, R. G., Newell, P., Davies, M., & Ulrich, A. (2024). Navigating the politics and processes of food systems transformation. *Frontiers in Sustainable Food Systems*, 8, 1399024. https://doi.org/10.3389/fsufs.2024.1399024

Boonstra, W. J. (2016). Conceptualizing power to study social-ecological interactions. *Ecology and Society*, *21*(1). http://www.jstor.org/stable/26270351

Campbell, P. Thornton, A. Loboguerrero, D. Dinesh, & A. Nowak (Eds.), Transforming Food Systems Under Climate Change through Innovation (pp. 119–129). Cambridge: Cambridge University Press. doi:10.1017/9781009227216.011

Canfield, M., Anderson, M. D., & McMichael, P. (2021). UN Food Systems Summit 2021: Dismantling democracy and resetting corporate control of food systems. Frontiers in Sustainable Food Systems, 5, 661552. https://doi.org/10.3389/fsufs.2021.661552

Canfield, M., Duncan, J., & Claeys, P. (2021). Reconfiguring food systems governance: The UNFSS and the battle over authority and legitimacy. *Development*, 64(3–4), 222–230. https://doi.org/10.1057/s41301-021-00306-4

Claeys, P., & Edelman, M. (2019). The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas. *The Journal of Peasant Studies*, 47(1).

Clapp, J. (2021). The problem with growing corporate concentration and power in the global food system. *The Journal of Peasant Studies*, 50(1), 5–26.

Clapp, J. (2025). Titans of Industrial Agriculture: How a Few Giant Corporations Came to Dominate the Farm Sector and Why It Matters. MIT Press. Clapp, J., & Fuchs, D. (Eds.). (2009). Corporate power in global agrifood governance. MIT Press.

Clapp, J., & Isakson, S. R. (2023). Private finance for food system climate adaptation: Opportunity or contradiction? *Current Opinion in Environmental Sustainability, 61,* 101273.

Clapp, J., Noyes, I., & Grant, Z. (2021). The Food Systems Summit's failure to address corporate power. Development, 64(3–4), 192–198. https://doi.org/10.1057/s41301-021-00303-2

Clapp, J., Vriezen, R., Laila, A., Conti, C., Gordon, L., Hicks, C., & Rao, N. (2025). Corporate concentration and power matter for agency in food systems. *Food Policy*, 134, 102897.

de Castro, J. (1952) *The Geography of Hunger* (7th edn), Boston, MA: Little, Brown.

Duncan, J. (2016). Governing in a post-political era: Civil society participation for improved food security governance. *Advances in Food Security and Sustainability, 1,* 83–113. Academic Press. https://doi.org/10.1016/bs.af2s.2016.09.001

Duncan, J., & Claeys, P. (2018). Politicizing food security governance through participation: Opportunities and opposition. *Food Security, 10*(6), 1411–1424. https://doi.org/10.1007/s12571-018-0852-x

Escobar, A. (2012). Encountering development: The making and unmaking of the Third World. *Princeton University Press*.

FAO 2003. Trade reforms and food security: conceptualising the linkages. Rome: Commodity Policy and Projections Service, Commodities and Trade Division.

Fakhri, M. (2024). Starvation and the right to food, with an emphasis on the Palestinian people's food sovereignty—Report of the Special Rapporteur on the right to food, Michael Fakhri (A/79/171). https://www.un.org/unispal/document/right-to-food-report-17jul24/

Food Foundation (2025). *The Broken Plate 2025*. London: The Food Foundation.

Friedmann, H., & McMichael, P. (1989). Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to the Present. Sociologia Ruralis, 29, 93–117. https://doi.org/10.1111/j.1467-9523.1989. tb00371.x

Fukuda-Parr, S. (2018). Developmental states, neoliberalism, and the right to food: Brazil and South Africa. In Gillian MacNaughton and Diane Frey, *Economic and social rights in a neoliberal world*. Cambridge University Press

Gaventa, J. (2006). Finding the Spaces for Change: A Power Analysis. *IDS Bulletin*, *37*(6), 23–33. https://doi.org/10.1111/j.1759-5436.2006.tb00320.x

Gaventa, J. (2021). Linking the prepositions: Using power analysis to inform strategies for social action. *Journal of Political Power*, *14*(1), 109–130. https://doi.org/10.1080/2158379X.2021.1878409

Gleckman, H. (2018). *Multistakeholder governance and democracy: A global challenge*. Routledge. https://doi.org/10.4324/9781315208448

HLPE (2017). Nutrition and food systems. High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.

HLPE (2019). Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.

HLPE. (2023). Reducing inequalities for food security and nutrition. High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.

HLPE (2024). Strengthening urban and periurban food systems to achieve food security and nutrition, in the context of urbanization and rural transformation. High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.

Horton, J. (2024). Producing food utopia(s) at the UN Food Systems Summit. Political Geography, 109, 103014. https://doi.org/10.1016/j.polgeo.2024.103014

Howard, P. H. (2021). Concentration and power in the food system: Who controls what we eat? (2nd ed.). Bloomsbury Academic.

ILO. (2022). Decent work deficits among rural workers: Key findings and recommendations for trade unions. International Labour Organization.

IPBES (2019). Global assessment report on biodiversity and ecosystem services: Summary for policymakers. IPBES Secretariat.

IPES-Food (2015). The new science of sustainable food systems: Overcoming barriers to food systems reform. IPES-Food.

IPES-Food (2016). From uniformity to diversity: A paradigm shift from industrial agriculture to diversified agroecological systems. IPES-Food.

IPES-Food (2017). Too big to feed: Exploring the impacts of mega-mergers, consolidation and concentration of power in the agri-food sector. IPES-Food.

IPES-Food. (2021a). The added value(s) of agroecology: Unlocking the potential for transition in West Africa. International Panel of Experts on Sustainable Food Systems.

IPES-Food. (2022). Smoke and Mirrors: Examining Competing Framings of Food System Sustainability: Agroecology, Regenerative Agriculture, and Nature-Based Solutions. IPES-Food. https://ipes-food.org/_img/upload/files/SmokeAndMirrors_FullReport.pdf

IPES-Food. (2023). Who's tipping the scales? The growing influence of corporations on the governance of food systems, and how to counter it. Brussels: IPES-Food.

IPES-Food (2024). Food from somewhere: Building food security and resilience through territorial markets. IPES-Food.

Juri, S., Pereira, L., Hebinck, A., Vervoort, J., & Drimie, S. (2024). Demystifying food systems transformation: A review of the state of the field. Ecology & Society, 29(2), 5. https://doi.org/10.5751/ES-14520-290205

La Vía Campesina, (n.d.) La Vía Campesina webpage: https://viacampesina.org/en/.

Lécuyer, L., Balian, E., Butler, J. R. A., Barnaud, C., Calla, S., Locatelli, B., ... & Young, J. C. (2024). The importance of understanding the multiple dimensions of power in stakeholder participation for effective biodiversity conservation. *People and Nature*, 6(4), 1407–1420.

Liboiron, M. (2021). Pollution is Colonialism. Duke University Press.

McKeon, N. (2015). Food security governance: Empowering communities, regulating corporations. Routledge. https://doi.org/10.4324/9781315882529

McKeon, N. (2017). Are equity and sustainability a likely outcome when foxes and chickens share the same coop? Critiquing the concept of multistakeholder governance of food security. *Globalizations*, *14*(3), 379–398. https://doi.org/10.1080/14747731.2017.1286168

McMichael, P. (2005). Global Development and The Corporate Food Regime. In *New Directions in the Sociology of Global Development* (Vol. 11, pp. 265–299). Emerald (MCB UP). https://doi.org/10.1016/S1057-1922(05)11010-5

McMichael, P. (2013). Food regimes and agrarian questions. Practical Action Publishing/Fernwood.

McMichael, P. (2013). A food regime genealogy. In *Critical Perspectives in Rural Development Studies* (pp. 129–158). Routledge.

Mignolo, W. (2012). Local histories/global designs: Coloniality, subaltern knowledges, and border thinking. *Princeton University Press*.

Mignolo, W. D., & Walsh, C. E. (2018). On decoloniality: Concepts, analytics, praxis. Duke University Press.

Newell, P., & Taylor, O. (2018). Contested landscapes: The global political economy of climate-smart agriculture. *The Journal of Peasant Studies*, 45(1), 108–129. https://doi.org/10.1080/03066150.2017.1324426

OHCHR (United Nations Office of the High Commissioner for Human Rights). 2010. "Fact Sheet

No. 34: The Right to Adequate Food. Geneva: United Nations." https://www.ohchr.org/Documents/Publications/FactSheet34en.pdf.

Patel, R., & Moore, J. W. (2017). A history of the world in seven cheap things: A guide to capitalism, nature, and the future of the planet. University of California Press.

Pereira, L., Vrettos, C., Cramer, L., Drimie, S., Muiderman, K., Schapendonk, F., Stringer, L.C., Veeger, M., Vervoort, J. & Wamukoya, G. (2023). Policies and Design Processes to Enable Transformation. In B.

Quijano, A. (2000). Coloniality of Power and Eurocentrism in Latin America. *International Sociology*, *15*(2), 215–232. https://doi.org/10.1177/0268580900015002005

Resnick, D., & Swinnen, J. F. M. (Eds.). (2023). The Political Economy of Food System Transformation: Pathways to Progress in a Polarized World. Oxford University Press.

Reynolds, K., & Qader, S. (forthcoming). (De)colonization and the Global Food System. In S. Fukuda-Parr & S. Jacobs (Eds.), *A Handbook for Decolonizing International Affairs*. Palgrave Macmillan.

Sen, A. (1981). Poverty and famines: An essay on entitlement and deprivation. Oxford University Press.

Shiva, V. (2016). *Biopiracy: The plunder of nature and knowledge*. North Atlantic Books.

Smith, L. T. (2021). Decolonizing methodologies: Research and indigenous peoples. Bloomsbury Publishing.

Sonnino, R., Marsden, T., & Moragues-Faus, A. (2016). Relationalities and Convergences in Food Security Narratives: Towards a Place-Based Approach. *Transactions of the Institute of British Geographers*, *41*(4), 477–489. https://doi.org/10.1111/tran.12125

United Nations. (1948, December 10). Universal Declaration of Human Rights. https://www.un.org/en/about-us/universal-declaration-of-human-rights

United Nations General Assembly (2018). United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP). A/RES/73/165.

United Nations (2023, July 24). Secretary-General's remarks to the UN Food Systems Summit +2 Stocktaking Moment. https://www.un.org/sg/en/content/sg/speeches/2023-07-24/secretary-generals-remarks-the-unfood-systems-summit-2-stocktaking-moment United Nations

Vijayan, D., Ludwig, D., Rybak, C., Kaechele, H., Hoffmann, H., Schönfeldt, H. C., Mbwana H. A.; Vacaflores, C. & Löhr, K. (2022). Indigenous knowledge in food system transformations. Communications earth & environment, 3(1), 213.

World Food Programme. (2020). State of school feeding worldwide 2020. WFP

Chapter 1

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Agarwal, B. (1992). The gender and environment debate: Lessons from India. Feminist studies, 18(1), 119–158.

Agarwal, B. (1994). A field of one's own: Gender and land rights in South Asia (No. 58). Cambridge University Press.

Agrawal, A., & Ostrom, E. (2001). Collective action, property rights, and decentralization in resource use in India and Nepal. Politics & Society, 29(4), 485–514.

Anderson, C. R., & Maughan, C. (2021). The Innovation Imperative: The Struggle Over Agroecology in the International Food Policy Arena. Frontiers in Sustainable Food Systems, 5, 619185. https://doi.org/10.3389/fsufs.2021.619185

Anderson, C. R., Bruil, J., Chappell, M. J., Kiss, C., & Pimbert, M. P. (2021). Agroecology Now!: Transformations Towards More Just and Sustainable Food Systems. Springer Nature. https://doi.org/10.1007/978-3-030-61315-0

Anderson, M. D. (2024). Transforming Food Systems: Narratives of Power. Routledge. https://doi.org/10.4324/9781003260264

Baker, P., & Demaio, A. (2019). The political economy of healthy and sustainable food systems. In Healthy and sustainable food systems (pp. 181–192). Routledge.

Baker, P., Lacy-Nichols, J., Williams, O., & Labonté, R. (2021). The Political Economy of Healthy and Sustainable Food Systems: An Introduction to a Special Issue. International Journal of Health Policy and Management, 10(Special Issue on Political Economy of Food Systems), 734–744. https://doi.org/10.34172/ijhpm.2021.156

Beckert, S. (2014). Empire of Cotton: A Global History. Knopf.

Bello, W. (2009). The Food Wars. Verso.

Bernstein, S. (2017). The United Nations and the governance of sustainable development goals. In N. Kanie & F. Biermann (Eds.), Governing through goals: Sustainable Development Goals as governance innovation (pp. 213–239). The MIT Press.

Borras Jr, S. M., & Franco, J. C. (2012). Global land grabbing and trajectories of agrarian change: A preliminary analysis. Journal of agrarian change, 12(1), 34–59.

Burgess, J., Cursino, M., & Spivey, M. (2024, November 23). "Too little, too late": Activists and poorer nations criticise \$300bn COP29 deal. BBC News. https://www.bbc.com/news/live/c8jykpdgr08t

Canfield, M. (2023). The Ideology of Innovation: Philanthropy and Racial Capitalism in Global Food Governance. The Journal of Peasant Studies, 50(6), 2381–2405. https://doi.org/10.1080/03066150.2022.2099739

Cappucci, M. (2018). The ESG Integration Paradox. Journal of Applied Corporate Finance, 30(2), 22–28. https://doi.org/10.1111/jacf.12296

Carney, J. (2020). Subsistence in the Plantationocene: Dooryard gardens, agrobiodiversity, and the subaltern economies of slavery. The Journal of Peasant Studies.

Chapman, P. (2022). Bananas: How the United Fruit Company shaped the world. Canongate Books.

Chiriac, D., Naran, B., & Falconer, A. (2020). Examining the climate finance gap for small-scale agriculture. Climate Policy Initiative and IFAD Rome.

Christensen, K., & Levinson, D. (Eds.). (2003). Encyclopedia of community: From the village to the virtual world. SAGE.

Claeys, P. (2019). Food sovereignty and convergence spaces. Geoforum, 106, 234–244.

Clapp, J., & Fuchs, D. (2009). Corporate Power in Global Agrifood Governance. MIT Press.

Clapp, J., & Isakson, S. R. (2018). Risky Returns: The Implications of Financialization in the Food System. Development and Change, 49(2), 437–460. https://doi.org/10.1111/dech.12376

Clapp, J., & Isakson, S. R. (2023). Private finance for food system climate adaptation: Opportunity or contradiction? Current Opinion in Environmental Sustainability, 61, 101273.

Clapp, J., Vriezen, R., Laila, A., Conti, C., Gordon, L., Hicks, C., & Rao, N. (2025). Corporate concentration and power matter for agency in food systems. Food Policy, 134, 102897. https://doi.org/10.1016/j. foodpol.2025.102897

Clapp, J. (2019). The rise of financial investment and common ownership in global agrifood firms. Review of International Political Economy, 26(4), 604–629.

Clapp, J. (2020). Food (3rd ed.). Polity Press.

Clapp, J. (2022). The rise of big food and agriculture: Corporate influence in the food system. In A research agenda for food systems (pp. 45–66). Edward Elgar Publishing.

Clapp, J. (2023). Concentration and Crises: Exploring the Deep Roots of Vulnerability in the Global Industrial Food System. The Journal of Peasant Studies, 50(1), 1–25. https://doi.org/10.1080/03066150.2022.2129013

COP29 UN Climate Conference Agrees to Triple Finance to Developing Countries, Protecting Lives and Livelihoods. 2024 November 24. United Nations Climate Change. Retrieved September 5, 2025. https://unfccc.int/news/cop29-un-climate-conference-agrees-to-triple-finance-to-developing-countries-protecting-lives-and

Crona, B. I., Daw, T. M., Swartz, W., Norström, A. V., Nyström, M., Thyresson, M., Folke, C., Hentati-Sundberg, J., Österblom, H., Deutsch, L., & Troell, M. (2016). Masked, diluted and drowned out: How global seafood trade weakens signals from marine ecosystems. Fish and Fisheries, 17(4), 1175–1182. https://doi.org/10.1111/faf.12109

Cruz, D. (2023). Ethics of food sovereignty: Discourses for transformative social action. Community Development Journal, 58(1), 64–81.

Danbom, D. B. (1979). The resisted revolution: Urban America and the industrialization of agriculture, 1900–1930. Iowa State University Press.

Daniel, P. (2013). Dispossession. UNC Press.

De Schutter, O. (2011). How Not to Think of Land-Grabbing: Three Critiques of Large-Scale Investments in Farmland. The Journal of Peasant Studies, 38(2), 249–279. https://doi.org/10.1080/03066150.2011.585948

De Schutter, O. (2014). Final report: The transformative potential of the right to food (UN Doc. A/HRC/25/57).

Deal 'too little, too late', African negotiators say. 2024 November 24. British Broadcasting Corporation (BBC). Retrieved September 5, 2025. https://www.bbc.com/news/live/c8jykpdgr08t

Duncan, J., & Claeys, P. (2018). Politicizing food security governance through participation: Opportunities and opposition. Food Security, 10(6), 1411–1424. https://doi.org/10.1007/s12571-018-0852-x

Escobar, A. (2011). Encountering Development: The Making and Unmaking of the Third World. Princeton University Press.

Fairhead, J., Leach, M., & Scoones, I. (2012). Green grabbing: a new appropriation of nature?. Journal of peasant studies, 39(2), 237–261.

Fakhri, M. (2024). Starvation and the right to food, with an emphasis on the Palestinian people's food sovereignty—Report of the Special Rapporteur on the right to food, Michael Fakhri (A/79/171). https://www.un.org/unispal/document/right-to-food-report-17jul24/

FAO. (2019). The State of the World's Biodiversity for Food and Agriculture. FAO. https://www.fao.org/3/CA3129EN/ca3129en.pdf

FAO & IPA. (2024). Accessing finance to invest in agrifood – A review of experimental evidence (Investment Brief). FAO & IPA.

Fearnside, P. M. (2001). Land-tenure issues as factors in environmental destruction in Brazilian Amazonia: the case of southern Pará. World Development, 29(8), 1361–1372.

Ferguson, H., & Kepe, T. (2011). Smallholder farmer participation in local and regional food aid procurement: Assessing the benefits and challenges in southwestern Uganda. International Development Planning Review, 33(1), 27–48.

Franco, J., Mehta, L., & Veldwisch, G. J. (2013). The global politics of water grabbing. Third World Quarterly, 34(9), 1651–1675.

Fretes, G., Veliz, P., Narvaez, A. M., Williams, D., Sibille, R., Arts, M., & Leroy, J. L. (2025). Digital Marketing of Unhealthy Foods and Non-alcoholic Beverages to Children and Adolescents: A Narrative Review. Current Developments in Nutrition, 9(2), 104545. https://doi.org/10.1016/j.cdnut.2025.104545

Friedmann, H., & McMichael, P. (1989). Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to the Present. Sociologia Ruralis, 29, 93–117. https://doi.org/10.1111/j.1467-9523.1989. tb00371.x

Friedmann, H. (2005). From colonialism to green capitalism: Social movements and emergence of food regimes. In New directions in the sociology of global development (Vol. 11, pp. 227–264). Emerald Group Publishing Limited.

Fuchs, D., Kalfagianni, A., & Havinga, T. (2011). Actors in private food governance: The legitimacy of retail standards and multistakeholder initiatives with civil society participation. Agriculture and Human Values, 28(3), 353–367. https://doi.org/10.1007/s10460-009-9236-3

Galiani, S., Gertler, P., & Schargrodsky, E. (2005). Water for life: The impact of the privatization of water services on child mortality. Journal of political economy, 113(1), 83–120.

Gálvez, A. (2018). Eating NAFTA: trade, food policies, and the destruction of Mexico. Univ of California Press.

Harper, S., Grubb, C., Stiles, M., & Sumaila, U. R. (2017). Contributions by women to fisheries economies: insights from five maritime countries. Coastal Management, 45(2), 91–106.

Harvey, D. (2005). A Brief History of Neoliberalism. Oxford University Press.

Harvey, D. (2017). The 'new' imperialism: accumulation by dispossession. In Karl Marx (pp. 213–237). Routledge.

Hicks, G., & Pena, D. (2003). Community Acequias In Colorado's Rio Culebra Watershed: A Customary Commons In the Domain Of Prior Appropriation. University of Colorado Law Review, 74(2), 715–764.

HLPE. (2023). Reducing inequalities for food security and nutrition. CFS HLPE-FSN.

Holt-Giménez, E., & Harper, B. (2016). Dismantling racism in the food system. Food First.

Howard, P. H. (2021). Concentration and Power in the Food System: Who Controls What We Eat? (Revised). Bloomsbury.

ILO. (2022). Decent work deficits among rural workers: Key findings and recommendations for trade unions. International Labour Organization.

IPES-Food. (2016). From Uniformity to Diversity: A Paradigm Shift from Industrial Agriculture to Diversified Agroecological Systems. IPES-Food. https://ipes-food.org/_img/upload/files/UniformityToDiversity_FullReport(1).pdf

IPES-Food. (2017). Too Big to Feed: Exploring the Impacts of Mega-Mergers, Consolidation and Concentration of Power in the Agri-Food Sector. IPES-Food. https://ipes-food.org/_img/upload/files/TooBigToFeed_FullReport.pdf

IPES-Food. (2020). The Politics of Protein: Examining Claims About Livestock, Climate and Food Security. IPES-Food. https://ipes-food.org/_img/upload/files/Protein_FullReport.pdf

IPES-Food. (2021a). The added value(s) of agroecology: Unlocking the potential for transition in West Africa. International Panel of Experts on Sustainable Food Systems. https://ipes-food.org/wp-content/uploads/2024/03/IPES-Food_FullReport_WA_EN.pdf

IPES-Food. (2021b). The Long Food Movement: Transforming Food Systems by 2045. IPES-Food. https://ipes-food.org/_img/upload/files/LongFoodMovement_FullReport.pdf

IPES-Food. (2021c). An 'IPCC for food'? How the UN Food Systems Summit is being used to advance a problematic new science-policy agenda (Briefing Note 1 on the governance of food systems).

IPES-Food. (2022). Smoke and Mirrors: Examining Competing Framings of Food System Sustainability: Agroecology, Regenerative Agriculture, and Nature-Based Solutions. IPES-Food. https://ipes-food.org/_img/upload/files/SmokeAndMirrors_FullReport.pdf

IPES-Food. (2023a). Breaking the cycle of unsustainable food systems, hunger, and debt. IPES-Food. https://ipes-food.org/wp-content/uploads/2024/03/DebtFoodCrisis.pdf

IPES-Food. (2023b). Who's Tipping the Scales? The Growing Influence of Corporations on the Governance of Food Systems, and How to Counter It. IPES-Food. https://ipes-food.org/wp-content/uploads/2024/03/tippingthescales.pdf

IPES-Food. (2024a). Food from somewhere: building food security and resilience through territorial markets. IPES-Food.

IPES-Food. (2024b). Land Squeeze: What is driving unprecedented pressures on global farmland and what can be done to achieve equitable access to land? IPES-Food.

IPES-Food. (2025). Starvation as genocide. IPES-Food. https://ipes-food. org/starvation-as-genocide/

Jha, P., & Yeros, P. (2023). Global exploitation chains in agriculture. In Handbook on critical political economy and public policy (pp. 262–278). Edward Elgar Publishing.

Kay, S. (2016). Connecting smallholders to markets. ROPPA, CSM.

Khoury, C. K., Bjorkman, A. D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., Rieseberg, L. H., & Struik, P. C. (2014). Increasing homogeneity in global food supplies and the implications for food security. Proceedings of the National Academy of Sciences, 111(11), 4001–4006. https://doi.org/10.1073/pnas.1313490111

Klassen, S., & Murphy, S. (2020). Equity as both a means and an end: Lessons for resilient food systems from COVID-19. World Development, 136, 105104.

Land Matrix. (n.d.). https://landmatrix.org/

Liboiron, M. (2021). Pollution is colonialism. Duke University Press.

Liu, Y., Fang, F., & Li, Y. (2014). Key issues of land use in China and implications for policy making. Land Use Policy, 40, 6–12.

Lowitt, K., Levkoe, C. Z., Spring, A., Turlo, C., Williams, P. L., Bird, S., Sayers, C. D., & Simba, M. (2020). Empowering small-scale, community-based fisheries through a food systems framework. Marine Policy, 120. https://doi.org/10.1016/j.marpol.2020.104150

Mares, T. M., & Peña, D. G. (2010). Urban agriculture in the making of insurgent spaces in Los Angeles and Seattle. Insurgent public space: Guerrilla urbanism and the remaking of contemporary cities, 241-254.

Marks, S. J., Onda, K., & Davis, J. (2013). Does sense of ownership matter for rural water system sustainability? Evidence from Kenya. Journal of Water, Sanitation and Hygiene for Development, 3(2), 122–133.

Matos, J. D. P., Tobias, P. B., Baldim, L., & Horta, P. M. (2023). Food advertising on YouTube channels aimed at children in Brazil. Revista de Saúde Pública, 57(1), 50. https://doi.org/10.11606/s1518-8787.2023057004174

McKeon, N. (2015). Food Security Governance: Empowering Communities, Regulating Corporations. Routledge.

McLaughlin, J., & Weiler, A. M. (2017). Migrant agricultural workers in local and global contexts: Toward a better life? Journal of Agrarian Change, 17(3), 630–638.

McMichael, P. (2009). A Food Regime Genealogy. Journal of Peasant Studies, 36(1), 139–169. https://doi.org/10.1080/03066150802700999

McMichael, P. (2014). Food Regimes and Agrarian Questions: Global Restructuring and the Power of Food. Practical Action Publishing.

Mintz, S. (1985). Sweetness and Power: The Place of Sugar in Modern History. Viking.

Mkandawire, T. (2001). Thinking about developmental states in Africa. Cambridge Journal of Economics, 25(3), 289–313.

Monteiro, C. A., Cannon, G., Levy, R. B., Moubarac, J.-C., Louzada, M. L., Rauber, F., Khandpur, N., Cediel, G., Neri, D., Martinez-Steele, E., Baraldi, L. G., & Jaime, P. C. (2019). Ultra-processed foods: What they are and how to identify them. Public Health Nutrition, 22(5), 936–941. https://doi.org/10.1017/S1368980018003762

Morvaridi, B. (2012). Capitalist Philanthropy and the New Green Revolution for Food Security. The International Journal of Sociology of Agriculture and Food, 19(2), 243–256.

Murphy, S., Burch, D., & Clapp, J. (2012). Cereal secrets: The world's largest grain traders and global agriculture. Oxfam International.

Newell, P., & Taylor, O. (2018). Contested landscapes: The global political economy of climate-smart agriculture. The Journal of Peasant Studies, 45(1), 108–129. https://doi.org/10.1080/03066150.2017.1324426

OECD. (2022). Building Trust and Reinforcing Democracy: Preparing the Ground for Government Action.

OECD. (2010). Globalisation in Fisheries and Aquaculture: Opportunities and Challenges. OECD Publishing.

OHCHR. (n.d.). About the right to food and human rights. OHCHR. https://www.ohchr.org/en/special-procedures/sr-food/about-right-food-and-human-rights

Ouma, S., Johnson, L., & Bigger, P. (2018). Rethinking the financialization of 'nature'. Environment and Planning A: Economy and Space, 50(3), 500–511.

Palmer, N. (2016). Making climate finance work in agriculture. World Bank Discussion Paper.

Palumbo, L., Corrado, A., & Triandafyllidou, A. (2022). Migrant labour in the agri-food system in Europe: Unpacking the social and legal factors of exploitation. European Journal of Migration and Law, 24(2), 179–192.

Patel, R., & Moore, J. W. (2017). A history of the world in seven cheap things: A guide to capitalism, nature, and the future of the planet. Verso.

Patel, R. (2007). Stuffed and Starved: Markets, Power and the Hidden Battle for the World Food System. Melville House.

Patel, R. (2013). The Long Green Revolution. Journal of Peasant Studies, 40(1), 1–63. https://doi.org/10.1080/03066150.2012.719224

Peck, J., & Tickell, A. (2002). Neoliberalizing Space. Antipode, 34(3), 380–404. https://doi.org/10.1111/1467-8330.00247

Perkins, J. H. (1997). Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War. Oxford University Press.

Rodney, W. (2018). How Europe underdeveloped Africa. Verso Books. (Original work published 1972)

Rainie, L. & Perrin, A. (2019). Key findings about Americans' declining trust in government and each other. Pew Research Center. Accessed 6 Sept 2025.

Renaut, A. (2003). Migrants in European agriculture: The new mercenaries? Labour Education, 23–28.

Reyes-García, V., Villasante, S., Benessaiah, K., Pandit, R., Agrawal, A., Claudet, J., Garibaldi, L. A., Kabisa, M., Pereira, L., & Zinngrebe, Y. (2025). The costs of subsidies and externalities of economic activities driving nature decline. Ambio, 54(7), 1128–1141.

Reynolds, K., & Cohen, N. (2016). Beyond the kale: Urban agriculture and social justice activism in New York City (Vol. 28). University of Georgia Press.

Reynolds, K., & Qader, S. (forthcoming). (De)colonization and the Global Food System. In S. Fukuda-Parr & S. Jacobs (Eds.), A Handbook for Decolonizing International Affairs. Palgrave Macmillan.

Schilpzand, R., Liverman, D., Tecklin, D., Gordon, R., Pereira, L., Saxl, M., & Wiebe, K. (2012). Governance beyond the state: Non-state actors and food systems. In J. S. I. Ingram, D. Liverman, & E. M. Stafford (Eds.), Food security and global environmental change (pp. 272–300). Routledge.

Scoones, I., Edelman, M., Borras Jr., S. M., Forero, L. F., Hall, R., Wolford, W., & White, B. (2021). Authoritarian Populism and the Rural World (1st ed.). Routledge. https://doi.org/10.4324/9781003162353

Scrinis, G. (2016). Reformulation, Fortification and Functionalization: Big Food Corporations' Nutritional Engineering and Marketing Strategies. Public Health Nutrition, 19(11), 2063–2073. https://doi.org/10.1017/S1368980015003799

Sen, A. (1981). Poverty and Famines: An Essay on Entitlement and Deprivation. Clarendon Press.

Shiva, V. (2000). Stolen Harvest: The Hijacking of the Global Food Supply. South End Press.

Shiva, V. (2016). Biopiracy: The plunder of nature and knowledge. North Atlantic Books.

Simon, S. (2007). Promises and challenges of the informal food sector in developing countries. FAO.

Smith, L. T. (2021). Decolonizing methodologies: Research and indigenous peoples. Bloomsbury Publishing.

Springmann, M., & Freund, F. (2022). Options for reforming agricultural subsidies from health, climate, and economic perspectives. Nature Communications, 13, 82.

Sturdy, A. (2021). The Governance of Management Consultancy Use: Practices, Problems, and Possibilities. In C. Hurl & A. Vogelpohl (Eds.), Professional Service Firms and Politics in a Global Era (pp. 321–349). Springer International Publishing. https://doi.org/10.1007/978-3-030-72128-2_16

Suhardiman, D., & Scurrah, N. (2021a). Institutional bricolage and the (Re) shaping of communal land tenure arrangements: Two contrasting cases in upland and lowland Northeastern Laos. World Development, 147, 105630. https://doi.org/10.1016/j.worlddev.2021.105630

Suhardiman, D., & Scurrah, N. (2021b). Communal land tenure, where state's interventions meet farmer's agency. CGIAR Research Program on Policies, Institutions, and Markets. https://pim.cgiar.org/2021/09/04/communal-land-tenure-where-states-interventions-meet-farmers-agency/

Swinburn, B. (2019). Power dynamics in 21st-century food systems. Nutrients, 11(10), 2544.

Treakle, J., & Krell, R. (2014). Territorial development and local knowledge systems: Engaging local farming knowledge through a right-based approach to agricultural development. FAO-Land and Water Division Working Paper, 11, 41.

Tseng, T. W. J., Robinson, B. E., Bellemare, M. F., BenYishay, A., Blackman, A., Boucher, T., ... & Masuda, Y. J. (2021). Influence of land tenure interventions on human well-being and environmental outcomes. Nature Sustainability, 4(3), 242–251.

United Nations Convention to Combat Desertification [UNCCD]. (2022). Study on the differentiated impacts of desertification, land degradation and drought on women and men. United Nations. https://www.unccd.int/resources/publications/differentiated-impacts-desertification-land-degradation-and-drought-women

United Nations Entity for Gender Equality and the Empowerment of Women [UN-Women]. (2014). The world survey on the role of women in development 2014: Gender equality and sustainable development. United Nations. https://www.unwomen.org/en/digital-library/publications/2014/10/world-survey-2014

United Nations Environment Programme. International Resource Panel, United Nations Environment Programme. Sustainable Consumption, & Production Branch. (2011). Decoupling natural resource use and environmental impacts from economic growth. UNEP/Earthprint.

United Nations Framework Convention on Climate Change. (2024, December 13). COP29 UN climate conference agrees to triple finance to developing countries, protecting lives and livelihoods. https://unfccc.int/news/cop29-un-climate-conference-agrees-to-triple-finance-to-developing-countries-protecting-lives-and

United Nations General Assembly. (2007). United Nations Declaration on the Rights of Indigenous Peoples (A/RES/61/295). United Nations. https://www.ohchr.org/sites/default/files/Documents/Publications/Declaration_indigenous_en.pdf

van der Ploeg, F. (2011). Natural resources: curse or blessing?. Journal of Economic literature, 49(2), 366–420.

Vivero-Pol, J. L., Ferrando, T., Schutter, O. de, & Mattei, U. (2019). Routledge Handbook of Food as a Commons. Taylor & Francis Group.

Vorley, B., Cotula, L., & Chan, M. K. (2012). Tipping the balance: Policies to shape agricultural investments and markets in favour of small-scale farmers. Oxfam.

Warren, D. M. (1991). Using indigenous knowledge. Agricultural Development World Bank Discussion Papers,(127).

WBA. (2019). Seafood Stewardship Index 2019. World Benchmarking Alliance. https://www.worldbenchmarkingalliance.org/publication/seafood-stewardship-index-2019/

Weis, T. (2007). The Global Food Economy: The Battle for the Future of Farming. Zed Books.

WHO. (n.d.). Health equity. World Health Organization. https://www.who.int/westernpacific/health-topics/equity

Whyte, K. (2017). Indigenous climate change studies: Indigenizing futures, decolonizing the Anthropocene. English language notes, 55(1), 153–162.

Wise, T. A. (2009). Agricultural dumping under NAFTA: Estimating the costs of US agricultural policies to Mexican producers.

Chapter 2

Power Shift: Radical Restructuring of Food Systems Governance

Chandrasekaran, Kirtana, Guttal, S., Kumar, M., Langner, L., & Manahan, M. A. (2021). *Exposing corporate capture of the UNFSS through multistakeholderism*. Food Systems 4 People. http://hdl.handle.net/1854/LU-8722290

Duncan, J., & Claeys, P. (2018). Politicizing food security governance through participation: Opportunities and opposition. *Food Security*, *10*(6), 1411–1424. https://doi.org/10.1007/s12571-018-0852-x

Gaventa, J. (2006). Finding the Spaces for Change: A Power Analysis. *IDS Bulletin*, 37(6), 23–33. https://doi.org/10.1111/j.1759-5436.2006.tb00320.x

Guston, D. H. (2014). Understanding 'anticipatory governance.' Social Studies of Science, 44(2), 218–242. https://doi.org/10.1177/0306312713508669

Hendriks, C. M., & and Grin, J. (2007). Contextualizing Reflexive Governance: The Politics of Dutch Transitions to Sustainability. *Journal of Environmental Policy & Planning*, 9(3–4), 333–350. https://doi.org/10.1080/15239080701622790

Kimbell, L., & Vesnić-Alujević, L. (2020). After the toolkit: Anticipatory logics and the future of government. *Policy Design and Practice*, 3(2), 95–108. https://doi.org/10.1080/25741292.2020.1763545

Kugelberg, S., Bartolini, F., Kanter, D. R., Milford, A. B., Pira, K., Sanz-Cobena, A., & Leip, A. (2021). Implications of a food system approach for policy agenda-setting design. *Global Food Security*, *28*, 100451. https://doi.org/10.1016/j.gfs.2020.100451

Mazey, S., & Richardson, J. (2020). Lesson-Drawing from New Zealand and Covid-19: The Need for Anticipatory Policy Making. *The Political Quarterly*, 91(3), 561–570. https://doi.org/10.1111/1467-923X.12893

McKeon, N. (2021). Global Food Governance. *Development (Basingstoke)*, 64(1–2), 48–55. https://doi.org/10.1057/s41301-021-00299-9

Montenegro de Wit, M., Canfield, M., Iles, A., Anderson, M., McKeon, N., Guttal, S., Gemmill-Herren, B., Duncan, J., van der Ploeg, J. D., & Prato, S. (2021). Editorial: Resetting Power in Global Food Governance: The UN Food Systems Summit. *Development*, *64*(3–4), 153–161. https://doi.org/10.1057/s41301-021-00316-x

Turnhout, E. (2024). A better knowledge is possible: Transforming environmental science for justice and pluralism. *Environmental Science & Policy*, 155, 103729. https://doi.org/10.1016/j.envsci.2024.103729

Webb, P., Benton, T. G., Beddington, J., Flynn, D., Kelly, N. M., & Thomas, S. M. (2020). The urgency of food system transformation is now irrefutable. *Nature Food*, 1(10), 584–585. https://doi.org/10.1038/s43016-020-00161-0

WEF. (2010). The Global Redesign Initiative: Executive Summary. World Economic Forum. https://www.weforum.org/reports/global-redesign-initiative

Zelli, F. (2011). The fragmentation of the global climate governance architecture. *WIREs Climate Change*, 2(2), 255–270. https://doi.org/10.1002/wcc.104

Chapter 3

Reclaiming Agriculture: Unveiling the Transformative Potential of Agroecology

Altieri, M. A. (1996). Agroecology: The Science of Sustainable Agriculture (2nd ed.). CRC Press. https://doi.org/10.1201/9780429495465

Altieri, M.A., & Nicholls, C.I. (2012). Agroecology scaling up for food sovereignty and resiliency. In E. Lichtfouse (Ed.), *Sustainable Agriculture Reviews*. Vol. 11, Springer. https://doi.org/10.1007/978-94-007-5449-2_1

Anderson, C. R., Bruil, J., Chappell, M. J., Kiss, C., & Pimbert, M. P. (2019). From transition to domains of transformation: Getting to sustainable and just food systems through agroecology. *Sustainability, 11*(19), 5272. https://doi.org/10.3390/su11195272

Anderson, C., & Maughan, C. (2021). "The innovation imperative": The struggle over agroecology in the international food policy arena. *Frontiers in Sustainable Food Systems*, *5*, 619185. https://doi.org/10.3389/fsufs.2021.619185

Andrée, P., Clark, J. K., Levkoe, C. Z., & Lowitt, K. (Eds.). (2019). *Civil society and social movements in food system governance* (1st ed.). Routledge. https://doi.org/10.4324/9780429503597

Benton, T. G., & Bailey, R. (2019). The paradox of productivity: Agricultural productivity promotes food system inefficiency. *Global Sustainability, 2*, e6, 1–8. https://doi.org/10.1017/sus.2019.3

Clapp, J. (2021). The problem with growing corporate concentration and power in the global food system. *Nature Food*, 2(1), 1-5. https://doi.org/10.1038/s43016-021-00297-7

Da Costa, D., & McMichael, P. (2007). The poverty of the global order. Globalizations, 4(4), 588–602. https://doi.org/10.1080/14747730701695851

DeLind, L. B. (2011). Are local food and the local food movements taking us where we want to go? Or are we hitching our wagons to the wrong stars? Agriculture and Human Values, 28, 273–283. https://doi.org/10.1007/s10460-010-9263-0

DeLonge, M., & Basche, A. (2017). Leveraging agroecology for solutions in food, energy, and water. *Elementa: Science of the Anthropocene*, *5*(1), 6. https://doi.org/10.1525/elementa.211

Desmarais, A., Claeys, P., & Trauger, A. (2017). *Public policies for food sovereignty: Social movements and the state.* https://doi.org/10.4324/9781315281797

Ekumah, B. (2024). Productive forces and the contradictions of capitalist agriculture: Agroecology as a sustainable alternative in Sub-Saharan Africa. *Discover Sustainability, 5*, 446. https://doi.org/10.1007/s43621-024-00684-7

El Bilali, H., Strassner, C., & Ben Hassen, T. (2021). Sustainable agri-food systems: Environment, economy, society, and policy. *Sustainability*, *13*(11), 6260. https://doi.org/10.3390/su13116260

Food and Agriculture Organization of the United Nations (FAO). (2018). *The* 10 elements of agroecology: Guiding the transition to sustainable food and agricultural systems. Rome, Italy: FAO. Retrieved from http://www.fao.org/3/i9037en

Giraldo, O., & Rosset, P. (2022). Emancipatory agroecologies: Social and political principles. *The Journal of Peasant Studies*, *50*, 1–31. https://doi.org/10.1080/03066150.2022.2120808

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

Intergovernmental Panel on Climate Change (IPCC). (2019). Climate change and land: An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (P. R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, & J. Malley, Eds.). Cambridge University Press. https://doi.org/10.1017/9781009157988

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2024). Summary for policymakers of the thematic assessment report on the interlinkages among biodiversity, water, food, and health. P. D. McElwee, P. A. Harrison, T. L. van Huysen, V. Alonso Roldán, E. Barrios, P. Dasgupta, F. DeClerck, Z. V. Harmáčková, D. T. S. Hayman, M. Herrero, R. Kumar, D. Ley, D. Mangalagiu, R. A. McFarlane, C. Paukert, W. A. Pengue, P. R. Prist, T. H. Ricketts, M. D. A. Rounsevell, O. Saito, O. Selomane, R. Seppelt, P. K. Singh, N. Sitas, P. Smith, J. Vause, E. L. Molua, C. Zambrana-Torrelio, & D. Obura (Eds.). IPBES Secretariat. https://doi.org/10.5281/zenodo.13850289

IPBES. (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, et al., Eds.). IPBES Secretariat.

IPES-Food. (2024). Food from somewhere: Building food security and resilience through territorial markets. IPES-Food. Available at: https://ipes-food.org/wp-content/uploads/2024/06/FoodFromSomewhere.pdf

Leeuwis, C., Boogaard, B. K., & Atta-Krah, K. (2021). How food systems change (or not): Governance implications for system transformation processes. *Food Security, 13*(4), 761–780. https://doi.org/10.1007/s12571-021-01178-4

Lowder, S. K., Sánchez, M. V., & Bertini, R. (2021). Which farms feed the world and has farmland become more concentrated? *World Development*, 142, 105455. https://doi.org/10.1016/j.worlddev.2021.105455

Martínez Valle, L., & Martínez Godoy, D. (2019). Territorial dynamics and social differentiation among peasants in the northern highlands of Ecuador. *Journal of Agrarian Change*, 19, 635–653. https://doi.org/10.1111/joac.12322

Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, & J. Malley, Eds.). Cambridge University Press. https://doi.org/10.1017/9781009157988

McKay, B., Nehring, R., & Walsh-Dilley, M. (2014). The 'state' of food sovereignty in Latin America: Political projects and alternative pathways in

Venezuela, Ecuador, and Bolivia. *The Journal of Peasant Studies, 41*(6), 1175-1200. https://doi.org/10.1080/03066150.2014.964217

McMichael, P. (2016). Commentary: Food regime for thought. *The Journal of Peasant Studies*, *43*(3), 648–670. https://doi.org/10.1080/03066150.2016.1143 816

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *The Geographical Journal*, 179(2), 132-140. https://doi.org/10.1111/geoj.12008

Nhantumbo, I., & Salomão, A. (2010). *Biofuels, land access and rural livelihoods in Mozambique*. International Institute for Environment and Development (IIED). https://doi.org/10.19088/IIED.9781843697442

Ocampo, J. A., Penagos-Concha, A. M., & Quesada-Jiménez, M. C. (2022). New institutional arrangements to address the distributional implications of a transition to healthy, inclusive and sustainable food systems (Working Paper). Food System Economics Commission. Retrieved from https://foodsystemeconomics.org/wp-content/uploads/Ocampo-et-al.-2022.pdf

Oya, C., Schaefer, F., Skalidou, D., McCosker, C., & Langer, L. (2017). Effects of certification schemes for agricultural production on socio-economic outcomes in low- and middle-income countries: A systematic review. *Campbell Systematic Reviews*, 13, 1-346. https://doi.org/10.4073/csr.2017.3

Parola, G. (2021). The dangerous rise of land grabbing through climate change mitigation policies: The examples of biofuel and REDD+. *Revista de Estudos Constitucionais, Hermenêutica e Teoria do Direito, 12*, 568–582. https://doi.org/10.4013/rechtd.2020.123.15

Pingali, P. L. (2012). Green Revolution: Impacts, limits, and the path ahead. *Proceedings of the National Academy of Sciences of the United States of America*, 109(31), 12302-12308. https://doi.org/10.1073/pnas.0912953109

Radic, I., & Gardeazabal, A. (2024). Empowering smallholder farmers with blockchain-enabled digital identities: The case of CIMMYT for traceability, financial inclusion and value chain integration. CGIAR Research Initiative on Digital Innovation. https://hdl.handle.net/10568/113623

Ramdas, S. R., & Pimbert, M. P. (2024). A cog in the capitalist wheel: Coopting agroecology in South India. *The Journal of Peasant Studies, 51*(5), 1251–1273. https://doi.org/10.1080/03066150.2024.2310739

Rosset, P. M., & Altieri, M. A. (2017). *Agroecology: Science and politics*. Fernwood Publishing.

Sacchi, G., Romanello, L., & Canavari, M. (2024). The future of organic certification: Potential impacts of the inclusion of Participatory Guarantee Systems in the European organic regulation. Agricultural and Food Economics, 12(2). https://doi.org/10.1186/s40100-023-00294-3

Struik, P. C., & Kuyper, T. W. (2017). Sustainable intensification in agriculture: The richer shade of green. A review. *Agronomy for Sustainable Development*, 37(39). https://doi.org/10.1007/s13593-017-0445-7

Tittonell, P. (2014). Ecological intensification of agriculture—sustainable by nature. *Current Opinion in Environmental Sustainability*, 8, 53-61. https://doi.

org/10.1016/j.cosust.2014.08.006

Thornton, P., Chang, Y., Loboguerrero, A. M., & Campbell, B. (2023). Perspective: What might it cost to reconfigure food systems? *Global Food Security*, 36, 100669. https://doi.org/10.1016/j.gfs.2022.100669

Uwaga, M., & Ogunbiyi, E. (2024). Evaluating the effectiveness of global governance mechanisms in promoting environmental sustainability and international relations. *Finance & Accounting Research Journal*, 6, 763-791. https://doi.org/10.51594/farj.v6i5.1151

van der Ploeg, J. D. (2020). The political economy of agroecology. *The Journal of Peasant Studies*, 48(2), 274–297. https://doi.org/10.1080/03066150.2020.1725489

Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability*, 7, 7833-7865. https://doi.org/10.3390/su7067833

Vermunt, D. A., Wojtynia, N., Hekkert, M. P., Van Dijk, J., Verburg, R., Verweij, P. A., Wassen, M., & Runhaar, H. (2022). Five mechanisms blocking the transition towards 'nature-inclusive' agriculture: A systemic analysis of Dutch dairy farming. *Agricultural Systems*, 195, 103280. https://doi.org/10.1016/j.agsy.2021.103280

Vivero Pol, J. (2013). Food as a commons: Reframing the narrative of the food system. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2255447

Wezel, A., & Soldat, V. (2009). A quantitative and qualitative historical analysis of the scientific discipline agroecology. *International Journal of Agricultural Sustainability*, 7(1), 3-18. https://doi.org/10.3763/ijas.2009.0400

Wynberg, R., Pimbert, M., Moeller, N. I., McAllister, G., Bezner Kerr, R., Singh, J., & Ngcoya, M. (2023). Nature-Based Solutions and Agroecology: Business as usual or an opportunity for transformative change? *Environment:* Science and Policy for Sustainable Development, 65(1), 15-22. https://doi.org/10.1080/00139157.2023.2146944

Zeitoun, M., Mirumachi, N., & Warner, J. (2010). Transboundary water interaction II: The influence of 'soft' power. *International Environmental Agreements: Politics, Law and Economics*, *11*(2), 159–178. https://doi.org/10.1007/s10784-010-9134-6

Zhang, Q. F. (2024). From sustainable agriculture to sustainable agrifood systems: A comparative review of alternative models. *Sustainability*, *16*(22), 9675. https://doi.org/10.3390/su16229675

Chapter 4

Navigating a Blue Future: Reimagining Aquatic Food Systems

Agnew, D. J., Pearce, J., Pramod, G., Peatman, T., Watson, R., Beddington, J. R., & Pitcher, T. J. (2009). Estimating the worldwide extent of illegal fishing. *PLOS ONE*, *4*(2), e4570. https://doi.org/10.1371/journal.pone.0004570

Alder, J., & Sumaila, U. R. (2004). Western Africa: A fish basket of Europe past and present. *Journal of Environment & Development*, 13(2), 156–178. https://www.jstor.org/stable/44319688

Arnason, R., Hannesson, R., & Schrank, W. E. (2000). Costs of fisheries management: The cases of Iceland, Norway and Newfoundland. *Marine Policy*, 24(3), 233–243. https://doi.org/10.1016/S0308-597X(99)00029-9

Asche, F., Roll, K. H., Sandvold, H. N., Sørvig, A., & Zhang, D. (2013). Salmon aquaculture: Larger companies and increased production. *Aquaculture Economics & Management*, 17(3), 322–339. https://doi.org/10.1080/13657305. 2013.812156

Barbesgaard, M. (2017). Blue growth: savior or ocean grabbing? *The Journal of Peasant Studies*, 45(1), 130–149. https://doi.org/10.1080/03066150.2017.137 7186

Bennett, N. J., Govan, H., & Satterfield, T. (2015). Ocean grabbing. *Marine Policy*, 57, 61–68. https://doi.org/10.1016/j.marpol.2015.03.026

Bennett, N. J., Blythe, J., White, C. S., & Campero, C. (2021). Blue growth and blue justice: Ten risks and solutions for the ocean economy. *Marine Policy*, 125, 104387. https://doi.org/10.1016/j.marpol.2020.104387

Berkes, F. (1985). The common property resource problem and the creation of limited property rights. *Human Ecology, 13*(2), 187–208. https://doi.org/10.1007/BF01531095

Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of Traditional Ecological Knowledge as Adaptive Management. *Ecological Applications*, 10(5), 1251–1262. https://doi.org/10.2307/2641280

Bolster, W. J. (2018). Distress signals: Historical waypoints in Northwest Atlantic fisheries since 1850. *Oceanography, 31*(3), 206–217. https://doi.org/10.5670/oceanog.2018.208

Boyce, J. R. (2010). Putting foxes in charge of the hen-house: The political economy of harvest quota regulations. *Environmental & Resource Economics*, 46(4), 475–496. https://doi.org/10.1007/s10640-010-9350-0

Carpenter, G., Kleinjans, R., Villasante, S., & O'Leary, B. C. (2016). Landing the blame: The influence of EU Member States on quota setting. *Marine Policy*, 64, 9–15. https://doi.org/10.1016/j.marpol.2015.11.001

Carr, C. L., & Scheiber, H. N. (2002). The globalization of conservation standards in marine fisheries. In D. Vogel & R. A. Kagan (Eds.), *Dynamics of regulatory change: How globalization affects national regulatory policies* (pp. 88–115). University of California Press.

Carvalho, N., Casey, J., Guillén, J. & Martinsohn, J. (2020). Profitability and management costs in the EU Northeast Atlantic fisheries. *Marine Policy*, 123, 104281. https://doi.org/10.1016/j.marpol.2020.104281

Cashion, T., Le Manach, F., Zeller, D., & Pauly, D. (2017). Most fish destined for fishmeal production are food-grade fish. *Fish and Fisheries*, *18*(5), 837–844. https://doi.org/10.1111/faf.12209

de Sousa, W. L., Zacardi, D. M., & Vieira, T. A. (2022). Traditional Ecological Knowledge of Fishermen: People Contributing towards Environmental

Preservation. Sustainability, 14(9), 4899. https://doi.org/10.3390/su14094899

Dème, El B., Dème, M., Sidibeh, M., & Failler, P. (2021). The exploitation of small pelagics fish in Gambia: what valorization policies? *International Journal of Fisheries and Aquatic Studies*, 9(14), 297-305. https://doi.org/10.22271/fish.2021.v9.i4d.2547

Dème, El B., Failler, P., Fall, AD., Dème, M., Diedhiou, I., Touron-Gardic, G., Bocoum, W. & Asiedu, B. (2023) Contribution of small-scale migrant fishing to the emergence of the fishmeal industry in West Africa: Cases of Mauritania, Senegal and the Gambia. *Front. Mar. Sci*, 10:871911. https://doi.org/10.3389/fmars.2023.871911

Englander, G., & Costello, C. (2023). A fish cartel for Africa. *Nature Communications*, 14, 7413. https://doi.org/10.1038/s41467-023-42886-z

Finley, C. (2016). The industrialization of commercial fishing, 1930–2016. Oxford Research Encyclopedia of Environmental Science. Oxford University Press. https://doi.org/10.1093/acrefore/9780199389414.013.31

Gephart, J. A., Agrawal Bejarano, R., Gorospe, K., Godwin, A., Golden, C. D., Naylor, R. L., Nash, K. L., Pace, M. L., & Troell, M. (2024). Globalization of wild capture and farmed aquatic foods. *Nature Communications*, *15*, 7340. https://doi.org/10.1038/s41467-024-51965-8

Gilmour, F., Bell, E., & O'Brien, C. M. (2025). Assessing the sustainability of negotiated fisheries catch limits by the UK for 2025. Cefas project report for Defra.

Hansman, C., Hjort, J., & Leonardi, M. (2018). Vertical integration, supplier behavior, and quality upgrading among exporters. *Journal of Political Economy*, 128(9), 3570–3625. https://doi.org/10.1086/708818

Hilborn, R. (2010). Pretty good yield and exploited fishes. *Marine Policy*, 34(1), 193–196. https://doi.org/10.1016/j.marpol.2009.04.013

HLPE. (2014). Sustainable fisheries and aquaculture for food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2014.

Jackson, J. B. C., Kirby, M. X., Berger, W. H., Bjorndal, K. A., Botsford, L. W., Bourque, B. J., Bradbury, R. H., Cooke, R., Erlandson, J., Estes, J. A., Hughes, T. P., Kidwell, S., Lange, C. B., Lenihan, H. S., Pandolfi, J. M., Peterson, C. H., Steneck, R. S., Tegner, M. J., & Warner, R. R. (2001). Historical overfishing and the recent collapse of coastal ecosystems. *Science*, *293*(5530), 629–637. https://doi.org/10.1126/science.1059199

Kroodsma, D. A., Mayorga, J., Hochberg, T., Miller, N. A., Boerder, K., Ferretti, F., Wilson, A., Bergman, B., White, T. D., Block, B. A., Woods, P., Sullivan, B., Costello, C., & Worm, B. (2018). Tracking the global footprint of fisheries. *Science*, *359*(6378), 904–908. https://doi.org/10.1126/science.aao5646

Kvaløy, O., & Tveterås, R. (2008). Cost structure and vertical integration between farming and processing. *Journal of Agricultural Economics*, 59(2), 296–311. https://doi.org/10.1111/j.1477-9552.2007.00149.x

Larkin, P. A. (1977). An epitaph for the concept of maximum sustained yield. *Transactions of the American Fisheries Society, 106*(1), 1–11. https://doi.

org/10.1577/1548-8659(1977)106<1:AEFTCO>2.0.CO;2

Longo, S. B., & Clark, B. (2012). The commodification of bluefin tuna: The historical transformation of the Mediterranean fishery. *Journal of Agrarian Change*, 12(2–3), 204–226. https://doi.org/10.1111/j.1471-0366.2011.00348.x

Majluf, P., Matthews, K., Pauly, D., Skerritt, D. J., & Palomares, M. L. D. (2024). A review of the global use of fishmeal and fish oil and the Fish In:Fish Out metric. *Science Advances*, *10*(42), eadn5650. https://doi.org/10.1126/sciadv.adn5650

McDonald, G. G., Costello, C., Bone, J., Cabral, R. B., Farabee, V., Hochberg, T., Kroodsma, D., Mangin, T., Meng, K., & Zahn, O. (2021). Satellites can reveal global extent of forced labor in the world's fishing fleet. *Proceedings of the National Academy of Sciences of the United States of America*, 118(3), e2016238117. https://doi.org/10.1073/pnas.2016238117

Moller, H., Berkes, F., Lyver, P. O., & Kislalioglu, M. (2004). Combining science and traditional ecological knowledge: Monitoring populations for comanagement. *Ecology and Society, 9*(3), 2. https://www.ecologyandsociety.org/vol9/iss3/art2/

Nash, K. L., MacNeil, M. A., Blanchard, J. L., Cohen, P. J., Farmery, A. K., Graham, N. A. J., Thorne-Lyman, A. L., Watson, R. A., & Hicks, C. C. (2022). Trade and foreign fishing mediate global marine nutrient supply. *Proceedings of the National Academy of Sciences of the United States of America*, 119(22), e2120817119. https://doi.org/10.1073/pnas.2120817119

Naylor, R. L., Hardy, R. W., Buschmann, A. H., Bush, S. R., Cao, L., Klinger, D. H., Little, D. C., Lubchenco, J., Shumway, S. E., & Troell, M. (2021). A 20-year retrospective review of global aquaculture. *Nature*, *591*, 551–563. https://doi.org/10.1038/s41586-021-03308-6

New Economics Foundation. (2019). Landing the blame: Overfishing in the Northeast Atlantic 2019. New Economics Foundation.

Niner, H. J., Wilson, D., Hoareau, K., Strand, M., Whittingham, J., McGarry, D., Erinosho, B., Ibrahim, S., Tshiningayamwe, S., Febrica, S., Lancaster, A. M. S. N., & Prokic, M. (2024). Reflections on the past, present, and potential futures of knowledge hierarchies in ocean biodiversity governance research. *Frontiers in Marine Science*, 11. https://doi.org/10.3389/fmars.2024.1347494

Organisation for Economic Co-operation and Development (OECD). (2003). *The costs of managing fisheries*. OECD Publishing. https://doi.org/10.1787/9789264099777-en

Okafor-Yarwood, I., Kadagi, N. I., Miranda, N. A. F., Uku, J., Elegbede, I. O., & Adewumi, I. J. (2020). The Blue Economy–Cultural Livelihood–Ecosystem Conservation Triangle: The African experience. *Frontiers in Marine Science*, 7. https://doi.org/10.3389/fmars.2020.00586

Okey, T. A. (2003). Membership of the eight Regional Fishery Management Councils in the United States: Are special interests over-represented? *Marine Policy, 27*(3), 193-206. https://doi.org/10.1016/S0308-597X(03)00002-2

Österblom, H., Jouffray, J.-B., Folke, C., Crona, B., Troell, M., Merrie, A., & Rockström, J. (2015). Transnational corporations as 'keystone actors' in marine ecosystems. *PLOS ONE*, *10*(5), e0127533. https://doi.org/10.1371/journal.pone.0127533

Pandey, R., Asche, F., Misund, B., & Nygaard, R. (2023). Production growth, company size, and concentration: The case of salmon. *Aquaculture*, *577*, 739972. https://doi.org/10.1016/j.aquaculture.2023.739972

Pandey, R., Asche, F., Misund, B., Nygaard, R., Adewumi, O. M., Straume, H.-M., & Zhang, D. (2023). Production growth, company size, and concentration: The case of salmon. *Aquaculture*, *577*, 739972. https://doi.org/10.1016/j.aquaculture.2023.739972

Pitcher, T.J., Lam, M.E. (2015) Fish commoditization and the historical origins of catching fish for profit. *Maritime Studies* 14, 2. https://doi.org/10.1186/s40152-014-0014-5

Quiñones, R. A., Fuentes, M., Montes, R. M., Soto, D., & León-Muñoz, J. (2019). Environmental issues in Chilean salmon farming: A review. *Reviews in Aquaculture*, 11(2), 375–402. https://doi.org/10.1111/raq.12337

Roberts, C., Béné, C., Bennett, N., Boon, J. S., Cheung, W. W. L., Cury, P., Defeo, O., De Jong Cleyndert, G., Froese, R., Gascuel, D., Golden, C. D., Hawkins, J., Hobday, A. J., Jacquet, J., Kemp, P., Lam, M. E., Le Manach, F., Meeuwig, J. J., Micheli, F., Morato, T., Norris, C., Nouvian, C., Pauly, D., Pikitch, E., Piña Amargos, F., Saenz-Arroyo, A., Sumaila, U. R., Teh, L., Watling, L., & O'Leary, B. C. (2024). Rethinking sustainability of marine fisheries for a fast-changing planet. *npj Ocean Sustainability*, 3(41), 41. https://doi.org/10.1038/s44183-024-00078-2

Sala, E., Mayorga, J., Costello, C., Kroodsma, D., Palomares, M. L. D., Pauly, D., Sumaila, U. R., & Zeller, D. (2018). The economics of fishing the high seas. *Science Advances*, *4*(6). https://doi.org/10.1126/sciadv.aat2504

Schuhbauer, A., Skerritt, D. J., Ebrahim, N., Le Manach, F., & Sumaila, U. R. (2020). The global fisheries subsidies divide between small- and large-scale fisheries. *Frontiers in Marine Science*, 7. https://doi.org/10.3389/fmars.2020.539214

Silvano, R. A. M., & Valbo-Jørgensen, J. (2008). Beyond fishermen's tales: Contributions of fishers' local ecological knowledge to fish ecology and fisheries management. *Environment, Development and Sustainability, 10*(5), 657–675. https://doi.org/10.1007/s10668-008-9149-0

Steinberg, R. H. (2007). Power and cooperation in international environmental law. Public Law & Legal Theory Research Paper Series Research Paper No. 06-43. UCLA School of Law

Sumaila, U. R., Ebrahim, N., Schuhbauer, A., Skerritt, D., Li, Y., Kim, H. S., Mallory, T. G., Lam, V. W. Y., & Pauly, D. (2019). Updated estimates and analysis of global fisheries subsidies. *Marine Policy*, 109, 103695. https://doi.org/10.1016/j.marpol.2019.103695

Tickler, D., Meeuwig, J. J., Palomares, M. L. D., Pauly, D., & Zeller, D. (2018). Far from home: Distance patterns of global fishing fleets. *Science Advances*, 4(8). https://doi.org/10.1126/sciadv.aar3279

European Commission: Directorate-General for Maritime Affairs and Fisheries, Fisheries Maritime Affairs F&S, Megapesca Lda, POSEIDON, Caillart, B., Cappell, R., Defaux, V., & Macfadyen, G. (2023). Evaluation and analysis of the Sustainable Fisheries Partnership Agreements (SFPAs) between the EU and third countries including an in-depth analysis of the sectoral support component of the SFPAs: Final report. Publications Office of the European Union. https://data.europa.eu/doi/10.2771/52188

Virdin, J., Vegh, T., Jouffray, J.-B., Blasiak, R., Mason, S., Österblom, H., Vermeer, D., Wachtmeister, H., & Werner, N. (2021). The Ocean 100: Transnational corporations in the ocean economy. *Science Advances*, 7(3). https://doi.org/10.1126/sciadv.abc8041

Wallis, P., & Flaaten, O. (2001). Fisheries management costs: Concepts and studies. In R. S. Johnston & A. L. Shriver (Eds.), *Microbehavior and macroresults: Proceedings of the Tenth Biennial Conference of the International Institute of Fisheries Economics and Trade, July 10–14, 2000, Corvallis, Oregon, USA.* International Institute of Fisheries Economics and Trade (IIFET).

Wintersteen, K. (2019). The fishmeal revolution: The industrialization of the Humboldt Current ecosystem.

Chapter 5

Food for All: Realizing the Transformative Power of Traditional and Informal Food Systems

Battersby, J., Marshak, M., & Mngqibisa, N. (2016). *Mapping the Invisible:* The Informal Food Economy of Cape Town, South Africa. Southern African Migration Programme.

Clapp, J. (2020). Food (3.ª ed.). Polity Press.

Clapp, J., & Fuchs, D. (Eds.). (2009). Corporate Power in Global Agrifood Governance. MIT Press.

Clapp, J., Vriezen, R., Laila, A., Conti, C., Gordon, L., Hicks, C., & Rao, N. (2025). Corporate concentration and power matter for agency in food systems. *Food Policy*, 134, 102897.

Crush, J., & Frayne, B. (2011). Supermarket Expansion and the Informal Food Economy in Southern African Cities: Implications for Urban Food Security. *Journal of Southern African Studies*, 37(4), 781–807.

Fanzo, J., & Davis, C. (2021). *Global food systems, diets, and nutrition*. Linking Science, Economics, and Policy. Cham: Springer International Publishing.

Gómez, M. I., & Ricketts, K. D. (2013). Food value chain transformations in developing countries: Selected hypotheses on nutritional implications. *Food Policy*, 42, 139–150.

González, S., & Waley, P. (2013). Traditional retail markets: The new

gentrification frontier? Antipode, 45(4), 965-983.

Heindorf, C., Reyes-Agüero, J. A., & Van't Hooft, A. (2021). Local markets: agrobiodiversity reservoirs and access points for farmers' plant propagation materials. *Frontiers in Sustainable Food Systems*, 5, 597822.

HLPE (2017). Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

HLPE (2024). Strengthening urban and periurban food systems to achieve food security and nutrition, in the context of urbanization and rural transformation. Rome, CFS HLPEFSN.

IPES-Food (2017). Too big to feed: Exploring the impacts of mega-mergers, concentration, concentration of power in the agri-food sector.

IPES-Food (2024). Food from somewhere: building food security and resilience through territorial markets.

IPES-Food (2025). Fuel to Fork: What will it take to get fossil fuels out of our food systems?

Johns, T., Powell, B., Maundu, P., Eyzaguirre, P.B. (2013). Agricultural biodiversity as a link between traditional food systems and contemporary development social integrity and ecological health. *J. Sci. Food Agric.* 93 (14), 3433–3442.

Khoury, C. K., Bjorkman, A. D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., Rieseberg, L.H., & Struik, P. C. (2014). Increasing homogeneity in global food supplies and the implications for food security. Proceedings of the national Academy of Sciences U.S.A., 111(11), 4001–4006.

Lawrence, G., & Smith, K. (2020). Neoliberal Globalization and Beyond: Food, Farming, and the Environment. In K. Legun, J. C. Keller, M. Carolan, & M. M. Bell (Eds.), *The Cambridge Handbook of Environmental Sociology* (pp. 411–428). chapter, Cambridge: Cambridge University Press.

McMichael, Philip (2005). Global Development and the Corporate Food Regime. In Frederick Buttel and Philip McMichael (Eds.), *New Directions in the Sociology of Global Development*, 265–299. Amsterdam: Elsevier.

OECD (2024). Competition in the food supply chain. OECD Roundtables on Competition Policy Papers, No. 319. OECD Publishing, Paris.

Patel, R. (2012). Stuffed and starved: The hidden battle for the world food system-Revised and updated. Melville House.

Pimbert, M. P., Thompson, J., Vorley, W. T., Fox, T., Kanji, N., & Tacoli, C. (2001). Global restructuring, agri-food systems and livelihoods. Gatekeeper Series no. 100. IIED.

Reardon, Thomas, & Minten, Bart (2021). Food value chain transformation in developing regions. In Agricultural development: New perspectives in a changing world, (Eds.). Keijiro Otsuka and Shenggen Fan. Part Three: Context for Agricultural Development, Chapter 12, Pp. 397-438. Washington, DC: International Food Policy Research Institute (IFPRI).

Simon, S. (2007). Promises and challenges of the informal food sector in developing countries. FAO, Rome.

Vermeulen, S. J., Campbell, B. M., & Ingram, J. S. (2012). Climate change and food systems. Annual review of environment and resources, 37, 195–222.

Vorley, B. (2023). Working with informality: constructive ways to transform food systems. IIED and SNV.

Weis, T. (2007). The Global Food Economy: The Battle for the Future of Farming. Zed Books.

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. The Lancet, 393(10170), 447-492.

Zimmerer, K.S. & de Haan, S. (2020). Informal food chains and agrobiodiversity need strengthening—not weakening—to address food security amidst the COVID-19 crisis in South America. Food Security, 12(4), 891–894.

Chapter 6

Harnessing Biodiversity: Neglected and Underutilized Species as Drivers of Structural Transformation

Andreotti, F., Bazile, D., Biaggi, C., Callo-Concha, D., Jacquet, J., Jemal, O. M., King, O. I., Mbosso, C., Padulosi, S., Speelman, E. N., & van Noordwijk, M. (2022). When neglected species gain global interest: Lessons learned from quinoa's boom and bust for teff and minor millet. *Global Food Security*, 32, 100613. https://doi.org/10.1016/j.gfs.2022.100613

Baker, P., Machado, P., Santos, T., Sievert, K., Backholer, K., Hadjikakou, M., Russell, C., Huse, O., Bell, C., Scrinis, G., Worsley, A., Friel, S., & Lawrence, M. (2020). Ultra-processed foods and the nutrition transition: Global, regional and national trends, food systems transformations and political economy drivers. *Obesity Reviews*, *21*(12), e13126. https://doi.org/10.1111/obr.13126

Clapp, J., & Fuchs, D. A. (2009). Corporate Power in Global Agrifood Governance. MIT Press.

Farooq, M., & Siddique, K. H. M. (Eds.). (2022). *Neglected and Underutilized Crops: Future Smart Food*. Academic Press. https://shop.elsevier.com/books/neglected-and-underutilized-crops/farooq/978-0-323-90537-4

Glatzel, K., Maina, C. C., Nyishimirente, A., Klemm, J., & Matin, Q. (2025). Leveraging the opportunities of neglected and underutilized crops for nutrition and climate resilience (ZEF Working Paper Series 245). University of Bonn, Center for Development Research (ZEF).

Gruère, G., Giuliani, A., & Smale, M. (2006). *Marketing Underutilized Plant Species for the Benefit of the Poor: A Conceptual Framework* (Environment and Production Technology Division Discussion Paper 154). International Food Policy Research Institute.

Hunter, D., Borelli, T., Beltrame, D. M. O., Oliveira, C. N. S., Coradin, L., Wasike, V. W., Wasilwa, L., Mwai, J., Manjella, A., Samarasinghe, G. W. L., Madhujith, T., Nadeeshani, H. V. H., Tan, A., Ay, S. T., Güzelsoy, N., Lauridsen, N., Gee, E., & Tartanac, F. (2019). The potential of neglected and underutilized species for improving diets and nutrition. *Planta*, *250*(3), 709–729. https://doi.org/10.1007/s00425-019-03169-4

IFAD. (2021). Promote neglected and underutilized species for domestic markets (3; How to Do). International Fund for Agricultural Development.

Kodirekkala, K. R. (2024). Neglected Millets, Crop Diversity and Nutritional Security: Paradox of Millets in India. *Journal of Asian and African Studies*, 00219096241235294. https://doi.org/10.1177/00219096241235294

McDonell, E. (2020). The Miracle Crop as Boundary Object: Quinoa's Rise as a "Neglected and Under-Utilized Species." In E. McDonell & R. Wilk (Eds.), *Critical Approaches to Superfoods* (pp. 95–117). Bloomsbury.

McDonell, E. (2025). The Quinoa Bust: The Making and Unmaking of an Andean Miracle Crop. University of California Press.

Meldrum, G., & Padulosi, S. (2017). Neglected No More: Leveraging underutilized crops to address global challenges. In *Routledge Handbook of Agricultural Biodiversity*. Routledge.

Padulosi, S., Heywood, V., Hunter, D., & Jarvis, A. (2011). Underutilized Species and Climate Change: Current Status and Outlook. In *Crop Adaptation to Climate Change* (pp. 507–521). John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470960929.ch35

Padulosi, S., International, B., Thompson, J., & Rudebjer, P. G. (2013). Fighting poverty, hunger and malnutrition with neglected and underutilized species: Needs, challenges and the way forward. Biodiversity International. https://hdl.handle.net/10568/68927

Raneri, J. E., Padulosi, S., Meldrum, G., & King, O. I. (2019). Supply-side measures improving food environments: Promoting neglected and underutilized species to boost nutrition in LMICs (United Nations Standing Committee on Nutrition 44). https://cgspace.cgiar.org/server/api/core/bitstreams/b215c446-2370-481f-8876-7580640b26b0/content

Sileshi, G. W., Borgemeister, C., Kuyah, S., Nath, A. J., & Arshad, S. (2025). About Neglected and underutilized crops for agroecological transition of food systems. *CABI Agriculture and Bioscience*, 6(1), 0047. https://doi.org/10.1079/ab.2025.0047

Vivanco, M. F. (2022). Neglected How? Neocolonial Discourses and Practices in the Production of Andean Crops and Knowledges [Ph.D. Dissertation, Pennsylvania State University].

Wood, B., Williams, O., Baker, P., & Sacks, G. (2023). Behind the 'creative destruction' of human diets: An analysis of the structure and market dynamics of the ultra-processed food manufacturing industry and implications for public health. *Journal of Agrarian Change*, 23(4), 811–843. https://doi.org/10.1111/joac.12545

Chapter 7

Democratizing Diets: Strategies to Make Biodiverse, Healthy Diets Affordable and Accessible

Baker, P., Machado, P., Santos, T., Sievert, K., Backholer, K., Hadjikakou, M., ... & Lawrence, M. (2020). Ultra-processed foods and the nutrition transition: Global, regional and national trends, food systems transformations and political economy drivers. *Obesity Reviews*, *21*(12), e13126. https://doi.org/10.1111/obr.13126

Bradley, K., & Herrera, H. (2016). Decolonizing food justice: Naming, resisting, and researching colonizing forces in the movement. *Antipode*, 48(1), 97–114.

Brenton, P., Portugal, A., & von Uexkull, E. (2022). Making trade work for nutrition: From agenda to action. In von Braun, J., et al. (Eds.), *Science and innovations for food systems transformation* (pp. 301–317). Springer.

Clapp, J. (2022). The rise of big food and agriculture: corporate influence in the food system. In *A research agenda for food systems* (pp. 45–66). Edward Elgar Publishing.

Clapp, J., Noyes, I., & Grant, Z. (2021). The food systems summit's failure to address corporate power. *Development*, 64, 192–198.

Clapp, J., & Scrinis, G. (2016). Big food, nutritionism, and corporate power. *Globalizations*, 14(4), 578-595.

Coady, D., Parry, I., Le, N.-P., & Shang, B. (2022). Global fossil fuel subsidy reform: The time is now. *IMF Staff Discussion Note*.

Fabbri, A., Holland, T. J., & Bero, L. A. (2018). Food industry sponsorship of academic research: investigating commercial bias in the research agenda. *Public Health Nutrition*, *21*(18), 3422–3430.

Fan, M. S., Zhao, F. J., Fairweather-Tait, S. J., Poulton, P. R., Dunham, S. J., & McGrath, S. P. (2008). Evidence of decreasing mineral density in wheat grain over the last 160 years. *Journal of Trace Elements in Medicine and Biology*, 22(4), 315–324. https://doi.org/10.1016/j.jtemb.2008.07.002

FAO. (2019). The State of the World's Biodiversity for Food and Agriculture. J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome.

FAO. (2023). The status of women in agrifood systems. Rome. https://doi.org/10.4060/cc5343en

FAO & WHO. (2019). Sustainable healthy diets – Guiding principles. Rome: FAO and WHO. https://www.who.int/publications/i/item/9789241516648

FAO, IFAD, UNICEF, WFP and WHO. (2024). The State of Food Security and Nutrition in the World 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms. Rome.

Figueroa-Helland, L., Thomas, C., & Aguilera, A. P. (2018). Decolonizing food systems: Food sovereignty, indigenous revitalization, and agroecology as counter-hegemonic movements. *Perspectives on Global Development and Technology, 17*(1-2), 173-201.

Frison, E. A., Smith, I. F., Johns, T., Cherfas, J., & Eyzaguirre, P. B. (2006). Agricultural biodiversity, nutrition, and health: making a difference to hunger and nutrition in the developing world. *Food and Nutrition Bulletin*, 27(2), 167–179.

Herforth, A. W., Bai, Y., Venkat, A., & Masters, W. A. (2025). The Healthy Diet Basket is a valid global standard that highlights lack of access to healthy and sustainable diets. *Nature Food*. https://doi.org/10.1038/s43016-025-01177-0

HLPE. (2023). Reducing inequalities for food security and nutrition. Rome, CFS HLPE-FSN. https://www.fao.org/cfs/cfs-hlpe/publications/hlpe-18

Igumbor, E. U., Sanders, D., Puoane, T. R., Tsolekile, L., Schwarz, C., Purdy, C., ... & Hawkes, C. (2012). "Big food," the consumer food environment, health, and the policy response in South Africa. *PLoS Medicine*, 9(7), e1001253.

IPES-Food. (2016). From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food Systems. https://www.ipes-food.org/_img/upload/files/UniformityToDiversity_FULL.pdf

Jacques, P. J., & Jacques, J. R. (2012). Monocropping cultures into ruin: The loss of food varieties and cultural diversity. *Sustainability*, *4*(11), 2970–2997. https://doi.org/10.3390/su4112970

Khoury, C. K., Bjorkman, A. D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., ... & Struik, P. C. (2014). Increasing homogeneity in global food supplies and the implications for food security. *Proceedings of the National Academy of Sciences, 111*(11), 4001–4006. https://doi.org/10.1073/pnas.1313490111

Lacy-Nichols, J., & Williams, O. (2021). "Part of the Solution": Food Corporation Strategies for Regulatory Capture and Legitimacy. *International Journal of Health Policy and Management, 10*(12), 845.

La Via Campesina. (2019, March 7). Bangladesh: Peasant movements intensify the struggle against 'Golden Rice'. https://viacampesina.org/en/2019/03/bangladesh-peasant-movements-intensifies-the-struggle-against-golden-rice/

Lopez-Moreno, M., Fresán, U., Marchena-Giráldez, C., Bertotti, G., & Roldán-Ruiz, A. (2025). Industry study sponsorship and conflicts of interest on the effect of unprocessed red meat on cardiovascular disease risk: A systematic review of clinical trials. *The American Journal of Clinical Nutrition*. https://doi.org/10.1016/j.ajcnut.2025.02.030

Ludwig, D., & Macnaghten, P. (2020). Traditional ecological knowledge in innovation governance: a framework for responsible and just innovation. *Journal of Responsible Innovation*, 7(1), 26–44. https://doi.org/10.1080/23299 460.2019.1676686

Malli, A., Monteith, H., Hiscock, E. C., Smith, E. V., Fairman, K., Galloway, T., & Mashford-Pringle, A. (2023). Impacts of colonization on Indigenous food systems in Canada and the United States: a scoping review. *BMC Public Health*, 23, 2105. https://doi.org/10.1186/s12889-023-16997-7

Miller, V., Yusuf, S., Chow, C. K., Dehghan, M., Corsi, D. J., Lock, K., ... & Mente, A. (2023). Availability, affordability, and consumption of fruits and vegetables in 18 countries: Cross-sectional analysis of the PURE study. *The Lancet Global Health*, *11*(1), e55–e65. https://doi.org/10.1016/S2214-109X(22)00479-5

Myers, S. S., Zanobetti, A., Kloog, I., Huybers, P., Leakey, A. D., Bloom, A. J., ... & Schwartz, J. (2014). Increasing CO₂ threatens human nutrition. *Nature*, 510(7503), 139–142. https://www.nature.com/articles/nature13179

Ndlovu-Gatsheni, S. J. (2013). *Coloniality of power in postcolonial Africa*. African Books Collective.

Nestle, M. (2016). Food industry funding of nutrition research: the relevance of history for current debates. *JAMA Internal Medicine*, 176(11), 1685–1686.

Nestle, M. (2018). Unsavory Truth: How Food Companies Skew the Science of What We Eat. Basic Books.

Njuki, J., Eissler, S., Malapit, H., Meinzen-Dick, R., Bryan, E., & Quisumbing, A. (2022). A review of evidence on gender equality, women's empowerment, and food systems. In von Braun, J., et al. (Eds.), *Science and innovations for food systems transformation*.

Pingali, P. (2007). Westernization of Asian diets and the transformation of food systems: Implications for research and policy. *Food Policy*, *32*(3), 281-298. https://doi.org/10.1016/j.foodpol.2006.08.001

Springmann, M., Mason-D'Croz, D., Robinson, S., Garnett, T., Godfray, H. C. J., Gollin, D., ... & Scarborough, P. (2018). Health-motivated taxes on red and processed meat: A modelling study on optimal tax levels and associated health impacts. *PLoS ONE*, *13*(11), e0204139.

Stone, G. D., & Glover, D. (2017). Disembedding grain: Golden Rice, the Green Revolution, and heirloom seeds in the Philippines. *Agriculture and Human Values*, *34*, 87–102.

Sukanya, M. (2024). The impact of global trade on nutrition and health in low- and middle-income countries. *Food Policy, 123*, 102477.

Vicedom, S., & Wynberg, R. (2024). Power and networks in the shaping of the Alliance for a Green Revolution in Africa (AGRA). *Third World Quarterly*, 45(3), 567–588.

Welch, R. M., & Graham, R. D. (1999). A new paradigm for world agriculture: meeting human needs: Productive, sustainable, nutritious. *Field Crops Research*, 60(1), 1–10.

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

Wood, B., Williams, O., Nagarajan, V., & Sacks, G. (2021). Market strategies used by processed food manufacturers to increase and consolidate their power: a systematic review and document analysis. *Globalization and Health*, 17, 17.

Yilmaz, H., & Yilmaz, A. (2025). Hidden Hunger in the Age of Abundance: The Nutritional Pitfalls of Modern Staple Crops. *Food Science & Nutrition*.

Chapter 8

Farmers First: Reclaiming Seed Sovereignty for Biodiverse Value Chains

Azam-Ali, S.N. (2021). The Ninth Revolution: Transforming Food Systems for Good. World Scientific Publishers, Singapore.

Azam-Ali, S.N. and Squire, G.R. (2002). *Principles of Tropical Agronomy*. Wallingford: CAB International, UK.

Ceccarelli, S. (2009). Evolution, plant breeding and biodiversity. *Journal of Agriculture and Environment for International Development*, 103(1/2), 131–145.

ETC (2015). Breaking bad: big ag mega-mergers in play Dow + DuPont in the Pocket? next: Demonsanto? ETC Group communique 115. https://www.etcgroup.org/files/files/etc_breakbad_23dec15.pdf#:~:text=With%20 combined%20annual%20revenue%20of%20\$385%20billion%2C%20 these%20companies%20call%20the%20shots.&text=The%20Big%20Six%20 agrochemical%20corporations%20(BASF%2C%20Bayer%2C,security%20 in%20the%20midst%20of%20climate%20chaos.

Harvey, D, (2003). *The New Imperialism*. Oxford University Press. https://doi.org/10.1093/oso/9780199264315.001.0001

Kloppenburg Jr, J. R. (1988). First the seed: The political economy of plant biotechnology. Cambridge University Press.

Kloppenburg J. (2010). Seed sovereignty: the promise of open source biology. *Journal of Agrarian Change*, 10(1), 148–157.

Louwaars, N. P. (2005). Seed laws: biases and bottlenecks. Seedling, July, 4–9. ISSN (Print): 1002–5154 URL: http://www.grain.org/seedling

Louwaars, N., Dons, H., Van Overwalle, G., Raven, H., Arundel, A., Eaton, D. and Nelis, C. (2009). Breeding business: The future of plant breeding in the light of developments in patent rights and plant breeder's rights. CGN report; No. 14 (EN)). CGN. https://edepot.wur.nl/141258.

Pardey, P., Koo, B. Drew, J., Horwich, J. and Nottenburg, C. (2013). The evolving landscape of plant varietal rights in the United States, 1930–2008. *Nature Biotechnology* 31(1). 2529.

Pimbert, M. (2022). Reclaiming diverse seed commons through food sovereignty, Agroecology and economies of care. In Y. Nishikawa, & M. Pimbert (Eds.), Seeds for Diversity and Inclusion: Agroecology and Endogenous Development (pp. 21–39). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-89405-4_2

UN (1948) https://www.un.org/en/about-us/universal-declaration-of-human-rights

Wattnem, T. (2016). Seed laws, certification and standardization: outlawing informal seed systems in the Global South. *The Journal of Peasant Studies*, 43(4), 850–867.

Westengen, O. T., Dalle, S. P., and Mulesa, T. H. (2023). Navigating toward resilient and inclusive seed systems. *Proceedings of the National Academy of Sciences*, 120(14), e2218777120.

Wolfe, M.S., Baresel, J.P., Desclaux, D., Goldringer, I., Hoad, S., Kovacs, G., Loschenberger, F., Miedaner, T.,Østergard, H. and E.T. Lammerts van Bueren (2008). Developments in breeding cereals for organic agriculture. *Euphytica* 163: 323–346.