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The global food landscape is changing rapidly. In 2007–08, food prices soared and remained volatile in the following years, effectively leading to a world food crisis that drove tens of millions of people into poverty and hunger. A phenomenal increase in large-scale farmland acquisitions in developing countries by a range of investors is leaving land rights in question for many small-scale producers while land grabbing is also occurring in the global North. There is also growing corporate concentration in the international food industry, from agricultural input firms to trading

firms to production and processing and food retail. A changing global climate with associated unpredictable weather and crop yields complicates this picture, as does a steady increase in the application of agricultural biotechnology worldwide. To counter these global forces, communities around the world are imagining and building alternative locally based and interconnected food systems grounded in the idea of food sovereignty to ensure food security, ecological sustainability and social justice.

guest editors:

Jennifer Clapp, Annette Desmarais, Matias Margulis

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Introduction

Special Issue: Mapping the Global Food Landscape

Mapping the state of play on the global food landscape

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The global food landscape is changing rapidly. In 2007–08 food prices soared and remained volatile in the following years, effectively leading to a world food crisis that drove tens of millions of people into poverty and hunger. A phenomenal increase in large-scale farmland acquisitions in developing countries by a range of investors is leaving land rights in question for many small-scale producers while land grabbing is also occurring in the global North. There is also growing corporate concentration in the international food industry, from agricultural input firms to trading firms to production and processing and food retail. A changing global climate with associated unpredictable weather and crop yields complicates this picture, as does a steady increase in the application of agricultural biotechnology worldwide. To counter these global forces, communities around the world are imagining and building alternative locally-based and interconnected food systems grounded in the idea of food sovereignty to ensure food security, ecological sustainability and social justice.

The breadth, scale, and speed of the changes on the global food landscape are forcing a major rethink of how we conceptualize problems and solutions to the production and distribution of food, and the persistence of hunger. They are also prompting more debate concerning critical issues related to the equitable access to and control over food and food producing resources such as land, seeds, and of course, decision-making power. Research on global food issues is rapidly

evolving in this context, and groundbreaking conceptual and empirical work is taking place at both the grassroots level and in academic arenas. The insights emerging from recent studies conducted by social movements, non-governmental organizations and academics are critical, with wide reaching impact and relevance for policy-making and for the broader fields of global food studies and rural development. Bringing these different kinds of researchers together is an important step in fostering research that better connects theory and praxis.

This special issue is unique in that it shares insights and experience of academics with those of social movement activists and non-governmental organizations (NGOs). It is vital to incorporate insights of those working on the ground who are often much closer to the daily realities of those most affected by changes in the global food economy. As such, the special issue provides an integrated overview and analysis of some important changes that have occurred to the food system landscape over the past decade. The articles are deliberately short and accessible, and seek not only to take stock and make sense of recent changes, but also to map out potential future research directions. We believe that this knowledge integration and synthesis is crucial to reshaping global food studies and informing future local, national, and international deliberations on food policies.

A secondary aim of this special issue is to advance the field of Critical Global Food Studies in Canada. Food Studies is a growing field of scholarly and public interest as evidenced by the rapid growth of the Canadian Association of Food Studies (CAFS) and the launch of this journal, *Canadian Food Studies*, in 2014. Canadian scholars and institutions of higher learning have been at the forefront of food studies. The vast topography of Canada and existence of diverse food systems and practices places Canadian scholars in a strong position to influence this growing field.

As long-time scholars of food issues, we see these as exciting and welcome developments. However, we are also concerned by what might be an emerging divide between locally- and globally-oriented critical food studies in Canada. In our view, this is a false dichotomy; food systems are multi-scalar by nature in that they are constituted by complex and dynamic local-global and global-local flows of seeds, agricultural practices and systems, price signals, social customs, consumer tastes, models of regulation, and perhaps most importantly, forms and sites of political struggles and solidarity. Whereas the analytical lens on issues presented here often starts at the global-level—in part due to what we see as wider trends—there is always a deep connection to local developments and the lived experiences of food producers and consumers around the world, as well as to changing relations among humans and nature across landscapes. We contend that the global lens offered here can in turn shed light on local food issues—just as local development influences how we analyze the global—and encourage research collaborations that leads us toward multi-sited and multi-scalar understandings of food systems and pathways for change.

The Waterloo workshop

The articles in this special issue are the result of an innovative workshop held in Waterloo, Ontario September 25–26, 2014, that sought to expand a conversation that integrated multiple sources and forms of knowledge—including experience in the field, expertise in policymaking, and scholarly research—about the changing global food landscape.

The workshop focused on 10 key themes that we felt best characterized significant changes and challenges on the global food landscape today. We chose the following 10 themes: the current state of hunger, production, and distribution in the world food system; development on the human right to food; deepening financialization of food systems; controversies in international food trade; local and global struggles for food sovereignty; global land grabs and land reform; emerging issues in genetic resources and agricultural biotechnology; the strategies of transnational agri-food corporations; the prospects for sustainable food security in the context of global environmental change; and reflections on new forms of global food governance.

We recognize this list of ten themes is quite limited and does not holistically capture all the key challenges. Upon critical self-reflection, we realized, for example, that issues such as health and nutrition, agroecology, and the linkages between food and energy systems—each addressed in some way through the existing organizational structure—could have featured as important themes in their own right. As workshop organizers, we had to make difficult decisions based on time, financial constraints, and availability of participants. In our view, although the 10 themes explored in this special issue help deepen conversations to advance multi-sited and multi-scalar approaches arising from recent changes on the global food landscape, we fully recognize that they by no means represent what we perceive to be the totality of issues relevant to Critical Global Food Studies today.

Workshop participants came from a range of social movements, NGOs, and academic institutions, and importantly, different career stages. This deliberate choice, on our part, ensured not only that there were perspectives and knowledge from inside and outside the academy, but also to consider inter-generational perspectives in order to capture a wider range of lived experiences, research, and imagined food futures. This cross-fertilization of academic and non-academic ideas was an important feature of the workshop. As NGO and social movement activists emphasized, when compared to academics, they have far more limited resources available for research and knowledge mobilization. The workshop certainly was successful in taking steps toward expanding a “networks of networks” of food research and advocacy; however more imaginative and dynamic forms of collaboration are required, including new institutional arrangements within and outside the academy to support alternative global food systems.

Although from diverse backgrounds, what connected participants was their experience and/or their research as well as a commitment to engaging with practice and social change. Our aim was to build stronger connections among these varied constituencies, engage in discussion and develop a collective analysis of some key issues on the global food landscape today. This

kind of exchange is important for Critical Global Food Studies because it provides a counterpoint to the dominant productivist model that is deeply entrenched in relationships between (land grant and agricultural research) universities, industry, government, and international organizations. We believe that diverse and often marginalized forms of knowledge are all important to better explore alternatives and ways of moving away from the current environmentally and socially unsustainable model of industrial agriculture.

Beyond providing a space for a productive conversation across disciplines, between areas of expertise and at the nexus of research and praxis, the workshop also sought to capture the insights with a compilation of written outputs that will be both widely accessible and relevant for informing policy and public opinion. The authors were asked to address the following three key questions: (1) What do scholars and civil society organizations need to know on that topic given changes in the world food system in the past decade? (2) What policy directions are the most promising? and (3) What are the key challenges we now face on that issue? Each theme is explored by a combination of academics and social movement or NGO representatives. Each theme also includes a paper providing synthesis and reflections prepared by a graduate student who served as a rapporteur for that session at the workshop. Following the workshop the articles were peer-reviewed and revised to incorporate insights from the conversations among participants. The final result, that is presented here, we believe, is unique as it begins to stitch insights together from a variety of different angles.

Key lessons from the papers

The articles in this collection connect to each other in many ways. Here we highlight four key insights that we as editors see emerging from the contributions:

- **Deep interconnections between all of these issues and with changes in the global economy.** As we collectively analyzed the various trends that are now reshaping the global food landscape, it became increasingly clear that they were not entirely distinct phenomena. Rather there are deeply connecting roots. As the articles make clear, many of the problems outlined here have emerged from, or are a reaction to, the global economic and financial crisis, and change in one arena, such as finance, has wide-ranging impacts on other sectors such as trade, corporate concentration, land grabs, and efforts to respond with bottom-up food sovereignty based initiatives.
- **Competing paradigms regarding how to build sustainable food systems.** There are highly polarized debates on how to address some of the most pressing issues in the global food landscape today. On one hand are those who argue for an expansion of a large-scale, industrial, neoliberal, and corporate-led model global food system. On the other hand, there

is increasing research pointing to the need for a paradigm shift to small-scale, farmer-led, agro-ecological, locally-based food systems. Indeed, in exploring more sustainable food systems, a number of authors highlight the role of peasants who are protagonists in an on-going process of repeasantization that also seeks to close the urban-rural divide. The contributions address the possible pathways for policy on this divided terrain, carefully analyzing how progressive initiatives might successfully navigate this fault-line.

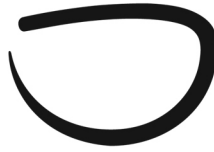
- **Governance has lagged behind in addressing the implications of rapid change in the food system.** There are some signs of positive change, for example, the reform of the United Nations Committee on World Food Security (CFS) has spearheaded important initiatives. But other global structures, such as the Group of 20, have taken a “business as usual” approach that entails very limited (if any) governance reform in the major industrialized countries. As the articles highlight, the governance changes at the global level over the last decade have on the whole been largely voluntary and ineffective. More substantive governance reform is required to direct the global food system onto a positive and more sustainable track.
- **Importance of fostering collaboration and co-production of knowledge for alternative global food systems.** Despite the proliferation of scholarly research on food systems, including critical applied research for alternative food systems, there remain significant obstacles to co-production and mobilization of knowledge to advance transnational advocacy and effective international food policymaking for just and sustainable food systems. The articles in this special issue seek to address this weakness by drawing on a range of sources, including academic, policy, social movement, and NGO contributions, and by engaging with each other to foster integrated collaboration for positive food system change.

Together, the purpose of this collection is to provide a highly accessible overview and critical analysis of the state of play across a range of key issues. The events of the past decade have presented new and challenging situations that the academic and food advocacy communities have yet to fully address. Thus far, both scholarship and advocacy have largely documented and reacted to events such as volatile food prices, a deepening crisis of climate change, and changes in access to land in a context of the growing power of financial and corporate actors in the global food system. This work has been important in helping to understand the challenges faced in the on-the-ground work of farmers, peasants, and urban-based groups who are engaged in the everyday struggles of building alternative food systems. There is a need to take stock of all these developments—not just as discreet individual issues, but also as a synthetic whole—in order to better understand how the global community could collectively respond to these developments, particularly in terms of governance and public policy.

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Section I

State of the world food system

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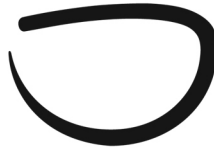
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The world food system has seen enormous change across a range of issue areas in recent years, as witnessed by the 2007–08 food crisis and subsequent period of volatility and uncertainty in a context of shifting ecological conditions. Closer examination of the specifics of those myriad changes first requires a step back to take stock of the broader shifts that have taken place over the past two decades. The papers in this section set this “big picture” backdrop, situating the global food system within wider contexts and developments and drawing important insights for understanding recent developments on the global food landscape. The papers remind us of the ways in which the food system connects to and also reflects broader economic, political, social, cultural, and ecological settings.

Timothy Wise sets the global economic and political context and argues that the time has come to turn onto the “road less travelled” in the form of policies that are more supportive of small-scale producers rather than the large-scale production-oriented approach that has dominated global responses to the food crisis. With a focus on the international political and social context, Mustafa Koç highlights the legitimacy crisis of the food system, as the global community has repeatedly failed to keep its promises to address hunger and climate change. Harriet Friedmann situates the food system within broader ecological and cultural contexts, and makes the case that we must adopt a landscape perspective that better joins human-cultural and natural systems to build a more socially and ecologically resilient food system.

As Matt Gaudreau emphasizes in his synthesis essay, all of the papers point to the need for a fundamental shift of the policy paradigm: from policies that entrench large-scale industrial agriculture to more resilient food systems and farm landscapes; and from a global and national approach to food security that prioritizes politics and self-interest to more human-scale policies that support an end to hunger amongst those who have the least political power.

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Section I

State of the World Food System

*Special Issue: Mapping the Global Food Landscape***Two roads diverged in the food crisis: Global policy takes the one more travelled**

Timothy A. Wise

Policy Research Director, Global Development and Environment Institute, Tufts University

The 2007-8 food price crisis provoked renewed policy debate on a wide range of important matters long sidelined from mainstream consideration—the role and value of smallholder agriculture, the need for public investment in the sector, the importance of public agricultural research, the value for developing countries of growing more of their own food, the dangers posed by climate change in an era of thin global commodity markets, and the potential value of food reserves for both food security and price stability.

Some policies and funding priorities have shifted, but powerful market actors have driven those policies in a familiar direction, toward expanded industrial production of agricultural commodities in financialized markets. If the progressive realization of the right to food is our goal, this “productionist” response—emphasizing increased agricultural production and yields as the solution to hunger—fails to address the challenges posed by the price crisis.

As the poet Robert Frost (1916) observed in “The Road Not Taken,” when two roads diverge, a decision must be made. The food price crisis brought the consequences of our past choices into stark relief. The road “more travelled” in food and agricultural policy has brought rapid growth in production of a few staple commodities, but hunger and malnutrition persist, as do environmentally unsustainable production practices.

Seven years after the 2007-08 food price spikes, global and national policy-makers remain reluctant to change course. They are intent on following that well-worn path, ignoring the folk wisdom: “If we don’t change direction we are going to get where we’re going.”

Shifts in global policy

Sophia Murphy and I assessed the global response to the food price crisis in a 2012 report, *Resolving the Food Crisis* (Wise & Murphy, 2012). We found welcome changes, as many of the issues noted earlier were squarely back on the table for policy-makers. We saw an initial jump in funding for agricultural development and recognition that small-scale farmers are not the problem dragging down the sector with “backward” ideas and techniques; indeed, they must be part of the solution.

We found new recognition that governments play a crucial role in redressing the market failures that plague agriculture. Many developing country governments began to rethink the prevailing orthodoxy that they could import food rather than invest in growing their own. We also found greater awareness of environmental issues, including climate change, in local and national development.

We also saw an encouraging set of new or reformed institutions, such as the Committee on World Food Security (CFS) in Rome, with its inclusive structure and broad responsibility for coordinating the response to the crisis. We even saw innovative forms of donor cooperation, with the Global Agriculture and Food Security Program (GAFSP), a multi-donor trust fund dedicated to supporting country-led agricultural development.

Those changes were welcome, but they have thus far proven inadequate to produce the kinds of structural reforms in global and national policies that are required to take us on a different path toward a different result. They left us squarely on the road more travelled. Policy-makers have largely failed to confront the new realities of the dangerous interdependence of food, fuel, and financial markets in the face of climate change (Wise, 2013). The recent and rapid growth of biofuel markets has put pressure on food and feed markets while diverting land, water and potential food-producing resources. The U.S. corn-based ethanol program alone consumes 35 percent of the U.S. crop, more than 10 percent of global supply, driving up prices.

Recent reforms that scale back consumption mandates for first-generation biofuels, made from food crops, slow but do not stop nor reverse the destructive trends. According to FAO-OECD projections (OECD/FAO, 2014, p. 110), by 2023 12 percent of maize and other coarse grains will go to biofuel production, while 14 percent of global vegetable oils will be used to produce biodiesel. For sugar, 28 percent will go into the production of transportation fuels. These unsustainable practices will only transport us further down the road we’re on, driving up food and feed prices, adding volatility to already thin markets, and diverting land and water from their optimal use in producing more and healthier food.

Meanwhile, initial efforts to better regulate commodities markets have largely been derailed by strong financial industry lobbying (Wise, 2011). Financial speculators remain free to treat food commodities as just another asset class, often buried within commodity index funds dominated by petroleum and other energy products. This further deepens the unhealthy link between food, fuel, and financial markets, adding volatility to food markets.

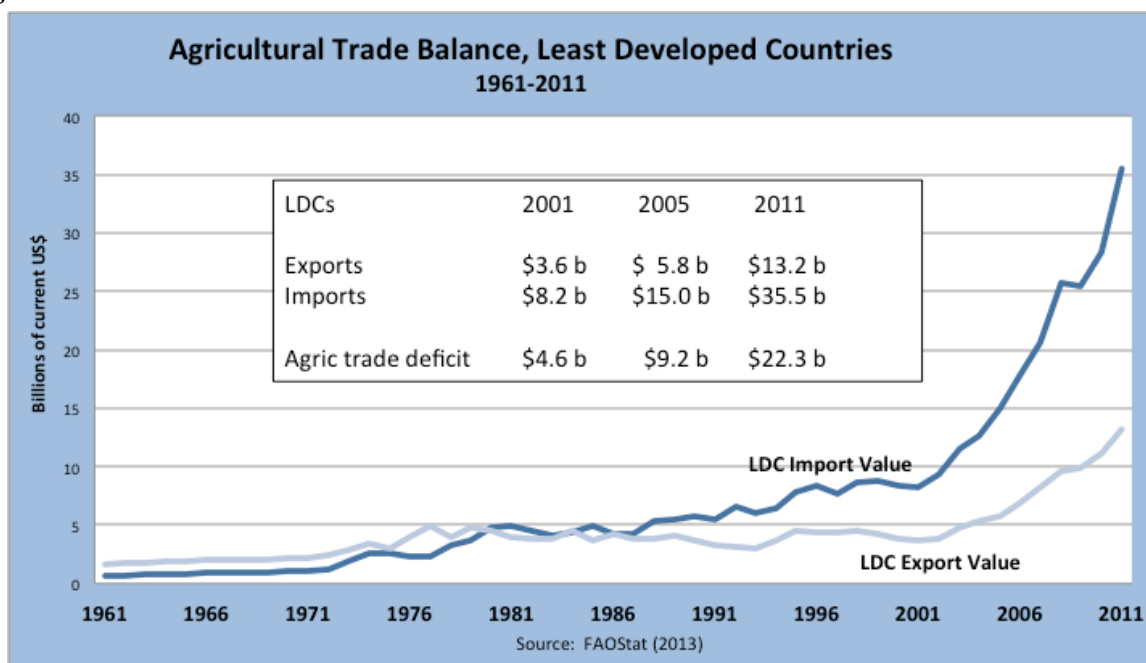
Those markets are fragile in part because most countries had abandoned the practice of maintaining public food reserves to confront emergencies and to dampen price volatility. Such reserves had been widely condemned before the food price crisis as inefficient, market-distorting government interventions. The condemnations persist, but many developing country governments have taken steps to establish food reserves as an important, if expensive, insurance policy against international price volatility.

In a welcome step, we have seen some governments, such as India’s, link such stockholding programs to the right to food in ambitious programs that pay poor farmers a guaranteed price slightly higher than market prices for their crops and distribute it to the poor at subsidized prices. If fully implemented, the program could reach more than 60 percent of India’s population, many of whom have been left behind in the country’s rapid economic growth.

India’s National Food Security Program has become a make-or-break issue in the World Trade Organization (Wise, 2014), a reminder of just how deeply committed rich-country policy-makers are to driving the world down that road more travelled. For them, WTO rules, even the archaic norms agreed two decades ago, are the non-negotiable roadmap down that road to trade liberalization. Never mind that study after study, in country after country, has shown that such measures undermine small-scale food producers in favor of imports of industrial commodity crops (e.g. Wise, 2009).

With the adoption (or imposition) of such policies, the agricultural trade balance of the world’s Least Developed Countries has soared from a small surplus in the early 1980s to a deficit of US\$4.6 billion in 2001, US\$9.2 billion in 2005, and a destabilizing US\$17.5 billion in 2008 with the onset of the food price spikes. It rose to US\$22.3 billion in 2011 after continued price increases (see Figure 1).

Figure 1



At the same time, many of these poor countries are making some of their best lands available to foreign investors and foreign governments in a wave of “land grabs” that only exacerbate these problems. In Africa, land equivalent in size to the country of Kenya has been offered at cut rates with 99-year leases, evicting current residents under the argument that the land is unutilized or underutilized. As the International Land Coalition has documented (Anseeuw et al., 2012), the acquired land is used overwhelmingly for export crops, often for biofuels or “flex crops” that can serve either biofuel or food markets. It is rarely “unoccupied.”

The road more travelled

In the last two years, these policy trends have generally become more pronounced, as responses to the food crisis in countries as diverse as Mexico, Malawi, Tanzania, and Zambia have shown. Then-U.N. Special Rapporteur on the Right to Food, Olivier De Schutter (2011), identified the underlying problem when he accepted his second three-year mandate in 2011:

Too much attention has been paid to addressing the mismatch between supply and demand on the international markets—as if global hunger were the result of physical scarcity at the aggregate level—while comparatively too little attention has been paid both to the imbalances of power in the food systems and to the failure to support the ability of small-scale farmers to feed themselves, their families, and their communities.

Indeed, the drumbeats of alarm about our ability to “feed the world” have only taken us further down the well-travelled road where raising production is the ultimate goal and doing so through the expansion of industrial high-input monoculture farming is the preferred means to get there. And it is along that road where a shrinking number of increasingly powerful corporations dominate global markets and public policy. These trends are particularly striking in Africa, where governments are bending over backwards to make vast tracts of good, irrigable land available to foreign investors to grow whatever they want. What they want, of course, is rarely food and is even more rarely for the domestic market.

Among the more glaring steps backward since the initial responses to the food price crisis in 2007-8 is the G-8 countries’ New Alliance for Food Security and Nutrition (Murphy & Wise, 2012). The program, initiated by U.S. President Barack Obama in 2012, relies on public-private partnerships with multinational firms in a limited number of African countries. It replaced the so-called L’Aquila commitments, a three-year pledge by rich governments for public investment in developing country agriculture.

The New Alliance turned that welcome injection of public financing for domestic agriculture into a reduced set of supports conditioned on recipient countries’ willingness to reform their laws and policies to create a more friendly business climate for foreign investors.

The rationale is as worn as the grass on that well-travelled road: smallholders are inefficient; foreign investors bring new technology and high productivity. In short: it calls for instant modernization.

Strapped for cash and investment, many countries have signed on, rewriting their laws on the vague promise of increased private investment. From Malawi's Green Belt Initiative to Tanzania's SAGCOT Corridor to Zambia's Farm Block Program, governments are taking some of their best agricultural land and making it available to foreign investors under concessional terms. The land rights of current occupants are regularly violated, and the results thus far have been mediocre. When the investors come, they grow biofuels or flex crops like sugar, often for export. They create few jobs. They displace farmers and communities. Many projects fail, as is the case with biofuels projects in Tanzania (Wise, 2014).

Mostly, though, the investors haven't come. Tanzania, Malawi, and Zambia all seemed to have very few live projects, at least so far. That creates the stunning paradox of hungry, land-poor smallholders in land-rich countries watching as the best lands in the country are ceded to foreign investors. Or watching their former land lie idle after the land-grab project fails.

One recent study from Zambia documented the paradox well, showing that smallholders, 80 percent of whom are poor or food-insecure, are constrained from producing a marketable surplus because their plots have gotten smaller over time with subdivisions among family members (Hichaambwa & Jayne, 2014). Giving them more and better land would indeed allow them to enter the market, earn incomes, invest in their land, raise productivity, and lead the long, slow process of agriculture-based economic development that has worked time and again, most recently in China and Vietnam.

The road less travelled

That slow process of accumulation of wealth in rural areas is now the road less travelled, but it used to be the time-tested path to economic development in agricultural countries, as economist Ha-Joon Chang (2009) showed in a too-little-known study, "Rethinking Public Policy in Agriculture: Lessons from Distant and Recent History." The virtuous cycle of economic development begins in the countryside, with public investment, favorable and stable prices, productivity-enhancing investment by farmers, diversification, and broad-based economic growth. But it still takes what it's always taken: farmer access to decent land, public research and extension, credit, marketing support, measures to stabilize prices at remunerative levels, and import protection where necessary.

Public policy took a detour, and policy-makers have largely ignored the opportunity to chart a different path after the food price crisis. But that road is still open. Policy-makers would do well to consider agriculture and food policies that put small-scale farmers—particularly women—first, promote affordable and sustainable low-input systems, and end the love affair with the productionist notion that growing more commodity crops will feed the hungry. The

hungry are, overwhelmingly, small farmers or underemployed workers, and cheap commodities won't get them fed.

This is why policy-makers, standing at that fork in the road following the 2007-8 food price spikes, needed to make a commitment to follow a different path. That was the clear and persuasive recommendation of the multi-agency report, *Agriculture at a Crossroads: International Assessment of Agricultural Knowledge, Science and Technology for Development* (McIntyre, Herren, Wakhungu, & Watson, 2009). Its message: “Business as usual is no longer an option” (McIntyre et al., 2009, p. 3). The international experts understood in early 2008 when the report was initially released, based on research carried out well before the food price spikes, that the world needed to make a decisive break with the prevailing model of high-input agriculture.

Instead, policy-makers have eschewed such decisive action, at best dabbling in new and promising approaches such as GAFSP's multi-donor trust fund, while allowing private sector interests to dominate the policy arena. In fact, such interests are threatening to overwhelm GAFSP. The program's innovative governance mechanisms include civil society representation and a clear set of criteria for “country-led” agricultural development projects. That so-called “public sector window” is the channel for significant international donor support (Global Agriculture & Food Security Program, 2014b), and it has supported sustainable agricultural development projects such as terracing for food production in Rwanda.

But the private sector has its own “window” within GAFSP with few of the criteria that guide the public sector projects toward more sustainable practices based on smallholder agriculture. Private sector projects can garner GAFSP support for public-private partnerships that do nothing to change the direction of agricultural policy (Global Agriculture & Food Security Program, 2014a).

It is as if policy-makers want to avoid making the necessary choices, electing to follow not Robert Frost's advice to risk the road less taken, but rather U.S. baseball legend Yogi Berra's (2002), who famously quipped: “When you come to a fork in the road, take it.”

Key research questions remain to guide policy-makers. What evidence exists that public-private partnerships lead to rural development or better food-security outcomes for the poor? What public investment is needed to scale up proven alternative low-input practices, such as push-pull pest control systems? What can we learn from “best practices” in agro-ecological projects in developing countries? Such research can help guide policy-makers, particularly those in developing countries, along that new path.

We can only hope that one day, many years hence, today's leaders will be able to look back on the recent food crisis and echo Robert Frost's (1916) closing words:

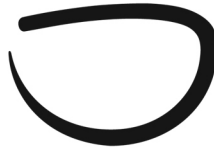
“I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.”

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Section I

State of the World Food System

Special Issue: Mapping the Global Food Landscape

Crisis of legitimacy and challenges for food policy

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Looking into the food system through the lens of food security, the first decade of the 21st Century was a period of broken promises, distrust, as well as fear and anxiety due to multiple crises in the financial markets—in the agri-food sector and in global politics. I will argue that this economically and politically volatile environment and the widespread distrust of major international and national agencies in terms of governance has led to a global legitimacy crisis, which I consider one of the biggest obstacles in mobilizing the public for social change and policy reforms.

These failures become clear when we consider past pledges that were made to address world hunger. Emerging during the mid-1970s, food security remained as a public policy priority and a popular discourse defining the conditions of food provisioning in modern society (Koç, 2013). At the World Food Summit of 1996, food security was defined as a condition that exists “when all people, at all times, have physical, and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996). As I outline below, the global community has failed to ensure food security for all.

Failed promises and global distractions

One of the notable developments of the 20th Century was a series of retreats from the previous global priorities set at forums such as the World Food Summit (WFS) and the Kyoto Protocol. Failure to meet established targets had significant consequences for long-term food system

reform. The most significant of these broken promises was the WFS objective of cutting food insecurity in half by 2015 from 800 million to 400 million (Koç & Bas, 2012).

Even before the turn of the century, the Millennium Development Goals (MDGs) had already lowered the higher standard set by the WFS from the reduction in the number of people experiencing hunger to a proportion of those experiencing hunger in the developing world, a much lower number. The new targets were to halve both the prevalence of underweight children under five years of age (MDG 1.8) and the proportion of population below minimum level of dietary consumption (MDG 1.9).

The follow up to the WFS, which was supposed to take place in November 2001, was delayed following the tragic events in New York on September 11 of that year. When it was eventually convened in June 2002, the WFS promise of 2015 was replaced with the new target of no more than 440 million hungry people in 2030.

Wars and civil wars in Afghanistan, Lebanon, Gaza, Iraq, Somalia, Libya, Syria, Congo, and Western and Central Africa resulted in huge numbers of death and lost livelihoods. These events have shaken the already fragile trust toward politicians and the U.N. system. Unilateral interventions and violations of the Westphalian principles made the U.N. system unworkable, while condemning millions of refugees or internally displaced people to poverty, food insecurity and malnutrition. According to U.N. High Commission for Refugees, the numbers of forcibly displaced people around the world in 2009 was estimated as 43.3 million people (UNHCR, 2009), which destabilizes production, distribution and access to food for peoples in conflict zones as well as neighbouring regions.

These wars destroyed the relative optimism of the post-Cold War era. In many parts of the world, ideas of progress, dreams of enlightenment, and principles of modernism gave way to xenophobic nationalisms, theocratic fundamentalisms, conspiracy theories and distrust for progressive solutions. Concerns about climate change, food security and demographic pressures could be easily dismissed with this cynicism.

Like the WFS goals, another broken promise of the 2000s was the Kyoto Protocol. While most nations continued to talk about their commitment to reducing greenhouse gas emissions, the United States failed to ratify Kyoto after signing it. In 2011, Canada, Japan and Russia stated that they would not take on further Kyoto targets.

As a major contributor to global greenhouse gas emissions, reforming the agrifood system would require taking effective measurements towards sustainability. Instead, we had biofuels as the green alternative to fossil fuels, without looking at its environmental sustainability and impacts on food security. Feeding our engines with edible grains and fats meant less of them would be available as food or feed.

Partly fueled by speculation in commodity markets, but mostly for the opportunity of producing grains and tropical fats as biofuel/biodiesel, land-grabbing initiatives resulted in large-scale transnational land acquisitions by agribusinesses, countries, and speculative investors primarily in sub-Saharan Africa, South Asia and Latin America (Blay-Palmer & Koç, 2010). As of July 2015, Land Matrix (2015) database reported over 959 concluded land deals over 35

million hectares of land globally. These initiatives are criticized for threatening biodiversity, depleting water resources, causing deforestation, and denying access of local small producers to commons (Desmarais & Handy, 2014; Margulis, 2013; McMichael, 2012).

The food crisis

In 2008 we had a full bloom food price crisis. Previous research identified the role of multiple potential factors ranging from poor weather conditions to US interest rate policies, increasing meat consumption in the developing world, low grain reserves, rising biofuels, high oil prices, and speculation in commodity markets (Clapp & Cohen, 2009; Giménez & Shattuck, 2011). By 2011, the FAO's Food Price Index was more than double its level in 2000. Rising food prices created food access problems for the urban poor, especially in import dependent countries in the Middle East and North Africa, leading to social unrest (Bellemare, 2015).

By 2009, the FAO's estimate of food insecurity had exceeded 1 billion. Millions of people from Haiti to North Africa, Middle East to South Asia were fighting for their bread on the streets. The food price crisis was a serious challenge to political leadership even in seemingly stable countries such as Egypt (Clapp & Helleiner, 2012). Former Mexican corn producers working in the maquiladoras, former Haitian rice producers trying to make a living by selling pica in Port-au-Prince, Egyptian peasants who already lost their land to cotton barons and trying to make their living in Tunisia and Libya as day labourers could not figure out the complexity of the global system. Trade liberalization was supposed to bring in cheap U.S. corn and cheap Miami rice instead of producing more hunger.

In 2010-2011, the FAO decided to delay their estimates as they claimed they were “re-calibrating” their methodology. The new methodology proved to be effective in reducing numbers of undernourished to an average of 867 million for the 2010-2012 period, at least on paper. While the methodology for SOFI 2012 was rightfully criticized by experts (Lappé, Clapp, Anderson, Pogge, & Wise, 2013), it was not the first case in utilizing statistics for cosmetic progress. The U.N.'s Millenium Development Goals was also criticized for its effort to show progress through statistical manipulation (Pogge, 2013).

I do not want to underestimate achievements. There was significant progress towards the WFS goals at least in some parts of the world. Since 1990, 63 countries have reached the MDG-1 and 22 countries have achieved the WFS target. The latest FAO figures released in late 2014 estimates the “chronically malnourished” as 805 million for 2012-2014. However, global figures could blind us to some important regional differences. Despite significant achievements globally, the chronically undernourished still constitute 23.8 percent of the population in Sub-Saharan Africa and 20.1 percent in the Caribbean region (FAO, 2014, p. 8).

Even in countries that showed progress towards WFS goals, we see significant patterns of hunger and malnutrition. This raises the question of whether the problems with food security calculations were due to methodological issues or they were conceptual in nature.

A global legitimacy crisis

To sum up, while we can identify significant new developments in the agrifood system in the first decade of the new century, these are mostly the outcomes of past institutional arrangements and processes. The food price crisis of the 2000s cannot be understood in isolation from these past developments such as the decades-long neglect of the agricultural sector, increasing corporate control, and liberalization of both agricultural trade and financial markets.

Secondly, looking at the food system alone will not allow us to see the interrelated nature of problems we deal with. I know I am stating the obvious, as we all are aware of the fact that food system problems are part of broader interrelated systemic problems. Yet, our attempts to develop effective food policies often carry a naïve optimism that changes in the food system could be possible by adopting effective food policies. As the crisis of the 2000s shows, food security policies mean little without policy changes in global trade, finance, environment and health.

Thirdly, we should contextualize structural problems and policy solutions within their *zeitgeist*, the spirit of times. Shaped by dominant ideologies, myths, public anxieties, popular discourses, the *zeitgeist* provides a mindset that shaping the conjunctural specificity where individual and institutional actors play their roles. The first decade of the 21st Century was a period of real or imaginary fears: Y2K, 9-11, SARS, H1N1, Ebola. This was also a decade of speculations, conspiracy theories, and distrust of both major social institutions and leaders. If the 1920s and 1930s were marked by charismatic leadership, the first decade of the new century was marked with distrust of leaders, politics, governments, corporations, banks, unions, the army, lobbies, advocacy groups, the U.N. system, the World Bank, and the International Monetary Fund.

In this context, what we are experiencing is bigger than a global food crisis. It is a global legitimacy crisis. If the first decade of the new century gives us some ideas about the future decades to come, with widening inequalities, a failing regime of international diplomacy and cooperation, a global economy shaped by corporate greed, decline of state power and local sovereignty, increasing private regulation, and with alarming signs of climate change, then there seems to be little room for optimism. Increasing concentration of capital in the agri-food system, intensification of commodification of land, decreasing water and food, decline in rural livelihoods, peak oil, climate change and demographic pressures all require urgent and effective policy responses.

Conclusion

The 21st Century began with a series of broken promises, and various forces have distracted us from the problem of world hunger. Conflict, environmental degradation, and the food/financial

crisis have either distracted us from the underlying causes of the problem or have provided false solutions. Failure to address key climatic, economic, political and societal challenges at the national and international levels, and lack of trust to key institutions of governance, media, and civil society create an environment of hopelessness, distrust and cynicism leading to a global legitimacy crisis.

Many of us who are convinced about the need for comprehensive and structural changes in food policies are equally convinced about the need for a paradigm shift (Lang & Heasman, 2004). This, of course, depends on our capacity to speak truth to power, but also to our ability to mobilize and convince the general public. In an environment of distrust, this is not an easy task. The legitimacy crisis creates a serious threat to social change.

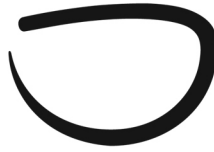
To mobilize the public to understand the need for a paradigm shift—and to demand effective food policies that would respond to environmental, social and economic priorities—we need to pay as much attention to politics of food as we pay attention to food policy. We cannot deliver effective policies without effective politics. For this, quoting Antonio Gramsci, we need “the pessimism of the intellect and optimism of the will” (Gramsci, 1999, p. 395).

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Section I

State of the World Food System

Special Issue: Mapping the Global Food Landscape

Governing land and landscapes: Political ecology of enclosures and commons

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Most of the world's food is still produced by small farmers, many of whom remain organized through customary land tenure. Customary tenure is a general term for specific cultural ways in which farmers embedded in ecological contexts allocate rights and obligations to use land, including cultivation, forest, grazing, and water. These are always unique, but they share the quality of not being centrally based on the kinds of land markets created in so-called advanced economies. An important feature at the present moment is direct appropriation of land and conversion of customary land use into private titles to specific plots of land. These include major deals with national governments in Africa and throughout the world to make huge areas of land (or water necessary to use the land) available to national elites, foreign governments, or large corporations. They also include international aid policies which, in trying to encourage small farmers to participate more directly in world markets, encourage a shift to individual titles. These actions threaten to dissolve the capacity of communities to govern the land as social and ecological conditions change (Tran, Provost, & Ford, 2014).

In response to these dynamics, new politics of resistance and of ways to transform customary tenure into formal law have arisen. As farmers' knowledge and seed sharing networks become more conscious, new institutions and ways of being are emerging (Provost, 2014). National laws integrating customary land tenure are increasingly recognized at the international level (Knox et al., 2012). It is useful, I think, to connect these changes with the history of land *enclosure* and with new theories about governing the *commons*. I will explore this approach in three sections: the return of "land" as a key investment; the very different idea of "landscape" as

the joint creation of nature and culture (which does not easily correspond to either property or national borders); and the new approaches by Ostrom (1990) and others which see “governing the commons” as a way to shift practices and perceptions to move towards culturally and ecologically sound ways for human communities to steward each place in the earth, and the earth as a whole.

Land

Farmland has come to the centre of conflicts across the world. This is an ancient story of class and conquest, but it is in our lifetime something quite new. Perhaps uniquely in history, during the second half of the 20th century, land for both export crops and domestic food production was at the margins of capital accumulation and state policy. Although large firms captured ever more value through selling machines and chemicals, and through buying crops as raw materials for animal feed and processed foods, land itself and all the risks associated with it was mostly left to farmers.¹ For at least the second half of the 20th century, farmers in all regions of the world (outside the Soviet and Chinese spheres) were sometimes subsidized, sometimes neglected, often squeezed by corporations upstream and downstream, and encouraged to migrate to cities and to modernize at the expense of their neighbours—but rarely dispossessed.²

In the second half of the 20th century, industrial transformation of the food system squeezed agriculture between corporations selling machines and chemicals and increasingly seeds on one side, and food manufacturers (and eventually supermarkets) buying crops as raw materials on the other. Especially in the context of government supports and bank loans to keep farmers on the land, profits were better captured by manufacturers upstream and downstream of agriculture. Farmland was cheap enough for those who could buy more; and those who sold were not, as today, trying to “cash out” in a hot real estate market, but were finding their way into labour markets and cities.

The shift in land investments accompanies another change in profitable investments: industrial crops called “food” in the “world food crisis” of 2008 (soy, maize, rice and wheat) are now included in financial portfolios to a new degree (Clapp, 2014). The crops anticipated to be

¹ Except for plantation crops inherited from the colonial era. Even some of those, such as bananas in the Americas, devolved land ownership and the risk that comes with it, to smallholders.

² This return of land to the centre of power and accumulation is of course also new. It is worth recalling that structural adjustment of agriculture in the past quarter century specifically undoes all the institutions created in the quarter century before, what Philip McMichael and I have described as the food regime defined by national regulation of agricultural production and trade. The list of “austerity measures” includes convertibility of national currencies, reducing government subsidies to food for consumers and to government credit and infrastructure for farmers, abolishing marketing boards, removing import controls and duties, and turning all possible land and labour towards exports. Each one of these institutions being taken apart in the 1980s and after—first in the global South and now also under pressure from deficit politics in the North—was created or deepened in the food regime begun in 1947. In that regime, national regulation was supported by a series of international rules, including most importantly the exclusion of agriculture from the General Agreement on Tariffs and Trade

grown on land investments promise huge returns to capital investors, whether for food, animal feed, or fuel. The list of inputs which must be purchased by industrial farmers has grown, for instance, to include patented seeds and computerized equipment, but now land itself has become central as an investment. Of course, these speculative investments in land, as in the past, can involve big failures.

Today's land investments can be seen as new enclosures of land long farmed by people in their specific ecological settings. Both the enclosures and responses to them, such as farmer movements and creation of alternative ways of farming, once again link specific places with global movements of money and people.³ By viewing the cyclical importance of land to capital historically, we can bring into focus the institutions defining property and markets in land, the products that humans create by interacting with the flows of soils, waters and species, and the inter-relationships among all organisms large and small in each place.

Landscapes

We have to change how we understand agriculture as it becomes more clearly central to “environmental” issues. First, climate stabilization and species protection—the two issues named in Rio in 1992—must be addressed at multiple scales at once, from individual farms and villages to nations and the whole earth. Second, ecology invites us to think about “scales” in new ways. Every carbon atom is released or sequestered in a particular place, and every being inhabits at a single time a particular place, even as those atoms and species are part of wider processes. These culminate ultimately in the atmosphere and biosphere, both cycles intimately connected to flows of water through the hydrosphere.

Understanding the correspondence or divergence between ecological and social-political organization is what I mean by *political ecology*. Ecological praxis makes sense through *landscapes*, a concept linking human institutions to particular places and to the complicated and contradictory relations among places. Landscapes are the joint creation of encultured humans and nature. Like seeds, and in intimate relationship with seeds, humans use land to get what we need for food, clothing, shelter and fuel—and of course all the multiplying needs of civilizations, now in free-fall with late capitalism. The ways that humans use land shapes and is shaped by cultures, in all senses of that word (Davis, 2009; Netting, 1993; 1986; Zimmerer & Bassett, 2003; Robbins, 2004).

How landscapes are shaped is, I think, the principal contest of our time. The recent UN Climate Conference included “climate smart agriculture” with its instant acronym, CSA (FAO, 2014).⁴ Beyond claiming that being “smart” about climate means improving industrial methods

³ Fantasies of returning to a golden age ignore the cyclical history that brought us to this moment (Friedmann, forthcoming).

⁴ Of course, the initials CSA also stand for something very different: Community Supported Agriculture. It is possible that the two could be combined, but they must not be confused.

rather than working with natural cycles and flows, the acronym CSA confuses those who are used to these initials referring to Community Supported Agriculture. This is one of a bewildering array of ideas and language appropriated from advocates of socially and ecologically embedded food system, all of which point in one way or another to closing on-farm material cycles. It is part of a corporate move to “green” industrial agriculture by becoming more efficient at using nitrogen and water, slowing the pace of ecosystem degradation, but accepting its inevitability. The discourses and practices could go many ways.

The contested discourses mark divergent trajectories, which are unfolding in ways difficult to untangle in specific instances. A useful rule of thumb, I suggest, is the balance between economy and ecology, between prices and real flows of materials and energy, and between focus on natural systems, rather than naturalized human institutions such as markets.

I mark a turning point in 2008, not only for grain’s embedding in finance and energy speculation, but also for discourse about agricultural sustainability. The simultaneous appearance of the World Bank Development report on agriculture and the International Assessment of Agriculture Knowledge, Science and Technology for Development (IAASTD) report on knowledge, science and technology launched two distinct yet interwoven discourses about agricultural sustainability, which have evolved with lightning speed. They both emphasized the importance of small-scale farmers for both economy and environmental sustainability, launching a deadly serious discursive game over defining both terms.

For the World Bank, the key is to support farmers to integrate into markets, which by now means supply chains dominated by capitals—and increasingly, for the global South, into monocultures of horticulture, fruits, fish, and of course, classical tropical exports like coffee. The emphasis on economy leads to land titling—as important as “land grabs” in enclosing lands held in various forms of customary tenure (O’Laughlin, Bernstein, Cousins, & Peters, 2013).

The IAASTD report, as many activists and food sovereignty advocates know, grew out of an environmental policy agenda from the IPCC through the Millenium Ecosystem Assessment to considering the role of agriculture in ecosystem management. It wisely included rural livelihoods and food security in its mandate. It implicitly recovers wisdom of growing food as part of living with forests, water cycles, and interaction of living organisms. The implications for land tenure (as well as knowledge, science and technology), were suggested by the former UN Special Rapporteur, Olivier de Schutter, who included it in the Right to Food and the right to a sustainable ecosystem, and who advocated agro-ecology and food sovereignty approaches to farming, food security, and ecosystem management (de Schutter 2010).

Now the game of appropriation of language and adaptation of practices is fully engaged. As quickly as creative initiatives come from below, their language and practices are cherry-picked by ruling institutions to define “climate ready” along with “biofortified” crops, in pursuit of what is now widely called “sustainable” or even “ecological intensification.” From the complementary direction, conservationists who understandably view industrial agriculture as a threat to species preservation support intensification in order to reduce land use destructive to biodiversity.

Of course, from another perspective, nothing is more intensive than permaculture. Ecology is a science and set of practices relying on cycles of material and energy flows rather than maximizing specific, market-oriented outputs and relative to specific market-defined inputs. Markets must be part of any complex system as far as I can see, but they can be either a goal, so that buying and selling are celebrated as they increase in scope and depth, or markets can be instruments to engage with people and places beyond our immediate ken. To define efficiency as a single crop measured either in yield per land unit or cash income per farm is part of a linear system that ignores natural cycles and creates ever more problems; solving each problem as it arises offers yet another profit opportunity, but generates an endless treadmill of new problems.

As farming becomes more deeply part of contested land use, knowledge becomes more clearly contested too. Partly, as the IAASTD concluded, the shift to ecological farming is about collaboration between formal scientists and farmers. A landscape perspective brings into play policy scientists whose mandate to protect forests and waters, for example, require that they work with farmers. From their side, farmers can benefit from the kinds of environmental scientists who discover that collaboration with inhabitants of places they work is their best hope of preserving forests, waters, and, of course, the soils and living things within and around them. In contrast to the extension model of knowledge transfer from experts to farmers (now mostly extinct or captured by input corporations), farmers are experts in knowing the ecosystem in which they work and live, and can collaborate with scientists who are experts in ecosystem analysis. By sharing knowledge and expertise, mutual learning and collaboration happens in both directions between scientists and farmers-as-experts.

Landscapes, of course, require coordinated stewardship. So it is useful to see institutional science as having its own history, for instance, to note that after half a century at least of promoting industrial methods, agronomists may be caught in industrial-chemical-biochemical trajectories through career incentives and penalties. On the other hand, natural resource scientists, wherever they are situated, are often becoming allies of ecological agriculture, along with entomologists, anthropologists, and a few other disciplines so far at the margins of agricultural science.

Governing like an ecosystem: The map is not the commons

Enclosures and commons, like all historical concepts, require specification for each place in our own time. Customary tenure exists in practice everywhere that neighbours work out how to live together in shared landscapes, even in urban neighbourhoods and export zones, where land conflicts can be intense. If enclosures threaten landscape stewardship, as seems to be the case in the current financial and military frenzies of resource grabs,⁵ then the task before us is to find

⁵ “Resources” is a word that invites careful use: it is the language through which gifts of nature are imagined to be solely for human use. It usually requires extra thought to imagine using resources responsibly.

ways to institutionalize commons as formal legal systems. Fortunately, this task has begun with the research of Elinor Ostrom (1990), who won the Nobel Prize in Economics, yet whose work is too little known and cited.

What might adaptive, resilient human institutions look like? Just when our species needs it, the outlines of a landscape perspective, including governance, are emerging rapidly (Kozar et al., 2014).

The starting point is twofold, namely,

1. that ecological boundaries rarely correspond to political boundaries, and landscapes are the outcome of both; and
2. that landscape approaches, which integrate human habitation with natural systems, include knowledge systems and practices that cross all the sectors, disciplines, and categories with which we habitually divide our thoughts and institutions.

Ecologically, what is needed can be described as farming designed to be a “matrix for nature” (Perfecto et al., 2010). Landscape *mosaics*, in which cultivation is integrated with natural systems, have been part of most farming systems devised by human cultures.⁶ For example, environmental historians and anthropologists show how First Nations managed landscapes on a scale and in ways that European eyes have rarely been able to perceive (Cronon, 2003; Pyne, 2001).

But again, it is not a matter of returning to any time before humans so drastically altered populations of all species and all earthly systems to suit the requirements of industrial agriculture and accumulation. Many disciplines now give us the tools to enhance the ability of humans to live well in our habitats, that is, to steward landscapes—including even the urban regions that have now become the dominant human habitat (ICLEI, 2014; IUFN, 2014; Walton, 2012).

Landscape governance, if it succeeds, will have to move towards discovering ecological boundaries. These are different from the present political boundaries, usually created through wars and treaties, and still reshaped by wars of conquest or secession. Ecological boundaries are not clear borders where passports and customs can try to manage movements of people and goods. Instead, they are nested and overlapping, often fractal. Watersheds, for instance, which connect the smallest stream to the largest flows through the hydrosphere and atmosphere, are a model.

How can humans move from where we are, with ever increasing wars, to where we need to be if we are to steward the earth? One model proposed is subsidiarity, in which each decision is made at the smallest possible level, and institutions are designed to cross scales as required.

⁶ James Scott is among those, like Wes Jackson, who see plowing and field crops of grain, as original sin; they are as old as civilization but much less ancient than landscape management by peoples moving between foraging and cultivation --- who are also still with us.

Such a move needs all the knowledge available to humans, including both formal sciences focused on landscapes linked into the biosphere, and the inherited wisdom of all the peoples who have lived in specific places—what Wade Davis (2009) calls the ethnosphere.

Conclusion

Landscape approaches promise to integrate agriculture with wildlife conservation and climate adaptation and mitigation. Leading from these “environmental” concerns, experiments in landscape governance offer hope to reshape human foodgetting—and with it, human stewardship as part of natural systems. Present enclosure movements, as my colleagues on this panel have suggested in other words, move in the opposite direction. Perhaps the re-emerging language of *commons* and *commoning* helps to name the emergent practices across scales and sectors which appear everywhere in the world, and which could converge into a sustainable future. At present, farmers and their supporters in the global South are leading in proposing ways to formalize customary tenure (Wily 2012, Merlet 2010). Most legal work on commons in the North arises to regulate intellectual property especially in the internet, such as “creative commons” (Benkler 2013, Frischman 2013). These are leads in approaching the urgent task of turning landscapes and the biosphere into instituted commons (Friedmann forthcoming).⁷

Questions arising from this approach include: What types of land tenure exist? Which forms of tenure are most conducive to knowledge-intensive farming in tune with ecosystem dynamics? What rules govern access to common lands—formal and informal—and are they integrated into the legal system for land tenure? What power relations shape existing and possible land use rules? How do struggles over land use manifest, and what languages/discourses do combatants deploy?

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⁷ The use of commons in international law, e.g., “common heritage of mankind,” has been a recipe for plunder by state and private powers. This is why it is so important to adopt Ostrom’s institutional approach to commons, which departs from a critique of Harding’s famous “tragedy of the commons” argument.

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Section I

State of the World Food System

Special Issue: Mapping the Global Food Landscape

Paradigm change and power in the world food system—Synthesis paper

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The articles by Friedmann, Koç, and Wise draw out overarching issues in the world food system; issues that resurface throughout this special issue of *Canadian Food Studies*. They offer complementary views where the dominant model, upon which transnational policies are created, ignores pressing concerns in the food system related to the distribution of food, human health, and the environment. In this contribution, I will use the concept of transnational policy paradigms to illustrate the key tension between the status quo of food policy and emerging alternatives. Focusing on this tension raises two important questions. First, what is the relationship between the dominant model of food policy (which shapes how we identify problems and solutions) and “less travelled” models that frame problems and solutions in a different way? Second, what are the obstacles blocking a paradigm shift? In order to answer these questions, the concept of “policy paradigm” will be unpacked, followed by an assessment of the long-emerging contest between the dominant productionist-neoliberal and alternative agroecological paradigms.

Paradigms and production

The concept of a “paradigm” refers to scientific communities, shared commitments/values, and the creation of common frameworks among them based on a shared framework for addressing a problem (Kuhn, 1970). Importantly, an implication of this is that paradigms are partly social in

nature; they depend on communities. Thus, not only can two (competing) paradigms exist at once (typically among different communities, often with distinct members), but dominant paradigms are sticky because they are upheld by communities with shared goals and accepted truths. They have vested interest that may prove resilient to challenges. The decline of a dominant paradigm is explained not just by evidence that points to issues or weaknesses with its underlying assumptions or values, and practices it has engendered. Key community members that have formed around the pursuit of the agenda of the dominant paradigm must also be convinced of the relative merit and viability of alternatives (and their competing prioritization of values), including at various levels of the government, interest groups, within academic disciplines, and among policy activists. This process of negotiation is not linear, and the spectrum of implicated interests is diverse.

This view of paradigmatic thinking is also used in the realm of policy-making, and is referred to as policy paradigms (Hall, 1993) or even transnational policy paradigms (Babb, 2013). In the context of *change* in policy paradigms, three types of changes have been introduced, with relevance to the discussion of paradigm change in food policy. These are: 1) first order changes, meaning small changes in the settings/levels of policy instruments currently in use; 2) second order changes that alter policy techniques, but with the same goals in mind; and 3) third order changes that result in a shift in the goals desired of policy (Baker, 2013; Hall, 1993). A paradigm shift occurs when all three types of changes occur, resulting in a radical change in goals, which is accompanied by the introduction of different policy techniques and measures supporting those goals (Hall, 1993). Typically, academic discussion of policy paradigms has focused on the realm of economic policy, but as Friedmann and Wise each indicate, the direction of food policy at the global and transnational scale is highly related to the direction of economic policy as it is manifest in international institutions.

Within food and agriculture policy, the dominant paradigm coming out of the 1990s (but continuing a post-WWII trend) is a combination of productionism and neoliberalism (Lang & Heasman, 2004). Productionism has, at its heart, a focus on increasing the amount of food available, along with capital-intensive inputs to support “industrial high-input monoculture farming” (see Friedmann, Wise; also Lang & Heasman, 2004). As Friedmann indicates, this overarching policy goal favours the type of knowledge produced by orthodox agronomists, who are embedded in the larger economic policy paradigm of the Washington Consensus based on a neoliberal economic order. The broad types of economic policy techniques that the Washington Consensus emphasizes are generally oriented toward changing the role of the state to supporting the functioning of markets as opposed to intervention in markets, while also reducing barriers to trade and investment (Babb, 2013). Dominant policy paradigm goals in food and economics reinforce one another, and in the context of food, focus on limiting government role in agriculture, increasing production through technological fixes, and increasing reliance on traded food—or at least the “abandonment of national food security as a policy goal” (Chang, 2010, p. 6).

Koç provides the example of Turkish policies under the dominant paradigm. In this case, policies reduced the level of price control, changed to tools targeting unit subsidies (which favour farmers operating at larger scales), and supported input subsidies for fertilizers. This is not to say that all nations implement policies that solely fit this dominant paradigm, either in its links to reduction of state support, or in its promotion of industrial scale chemical or biological monoculture. It is well known that many countries (particularly major industrialized agricultural producers) continue to provide subsidy support, though this is typically targeted at industrial production. Other countries such as Brazil, Cuba, and Ecuador have, at least in part, adopted alternative policy paradigms, discussed below. However, at the level of the dominant institutions of global governance, the dominant paradigm prevails. As Chang (2010, p. 4) indicates, this direction of agricultural policy is the “new conventional wisdom.”

Despite the widespread entrenchment of the dominant paradigm, which has ideological complements to wider economic policy thinking, repeated anomalies are found. Both the food price and financial crisis seemingly opened a window for introducing alternative policy goals and techniques. Further, there is increasing institutional space for discussing these alternatives. Are we in a time of paradigmatic crisis (Kuhn, 1970)? What then, is the path to developing and implementing an alternative policy paradigm? What are the obstacles?

Emergence of the new and stickiness of the old

Despite the adoption of the dominant paradigm both among industrialized states as well as in many international institutions, it is not universal. As is widely recognized, paradigms can co-exist (Hall, 1993; Kuhn, 1970). The calls for a shift in the framework through which issues in the food system are understood has natural parallels with the types of accumulating anomalies seen within the dominant food system (Hall, 1993; Lang & Heasman, 2004). In particular, the framework through which productionism and neoliberalism identify policy goals and techniques does not easily account for issues of distribution and equity, nutrition and health, and the place of humans and agriculture within larger ecological systems. The primary framework being offered as an alternative is ecological agriculture, which takes several forms.

In terms of distribution, the key puzzle that arises in the world food system is that more food is produced than needed. Yet food shortages exist in some places and chronic hunger in others. Given that small producers still make up the majority of food production (and the majority of the hungry) in many developing countries, there is a mismatch between the attempt to increase food imports and the livelihood needs of many small farmers. Distribution itself is linked to key health issues. While enough food exists, hunger continues to occur in some regions alongside an acceleration of obesity in others. Further, where hunger seems to be in decline as a result of productionist policies, issues of nutrition arise, as described by Koç. Finally, health is not only related to human health, but to the health of the larger ecology of which humans are one part. The use of chemicals in supporting monoculture production, the dominance of specific crop

types and related biodiversity loss, are all aspects of the concerns that arise out of the application of productionist agriculture.

Of course, each of these “anomalies” that arise from the model are met with “articulations and *ad hoc* modifications [to the paradigm] in order to eliminate any apparent conflict” (Kuhn 1970, p. 78). For example, the need for rural-urban transition and shift to wage employment, complemented by agricultural industrialization, as a solution to hunger and access in agriculturally based developing countries; individual lifestyle choice arguments regarding nutritional issues; or biotechnology for preventing the known harm of chemical fertilizers, pesticides and herbicides, while also increasing production (but ignoring patent issues, direction of research in relation to on-the-ground issues faced by small farmers, and the relationships of biotechnology to larger ecological and economic systems).

At the same time that the dominant paradigm seeks fixes to address these anomalies, agroecological approaches provide a potential alternative paradigm. Friedmann in particular points to the concept of landscapes as a crucial element in shaping the goals of an agroecology paradigm. The initial reorientation is one that reduces the importance given to agronomy’s focus on profit maximization, and increases the importance of ecology’s focus on interconnection between and across scales. In addition, there is a strong push towards cooperation between formal scientists, policy scientists, and farmers (Friedmann, this issue; Wise, this issue). In terms of policy techniques, Wise states most explicitly that in order to support small-scale farming, the focus must be on, “farmer access to decent land, public research and extension, credit, marketing support, measures to stabilize prices at remunerative levels, and import protection where necessary.” This argument follows Chang (2010) who notes that implementing changes in techniques does not always mean developing brand new policy tools. Indeed, we can look to history to find options. In this case, the options presented require states to change the way they intervene in agricultural markets, in both the global North and South. For her part, Friedmann looks for deeper changes in policy techniques, shifting from enclosures to the “institutionaliz[ation of] commons as formal legal systems.”

Can these ideas inform a new dominant policy paradigm? Is it possible to shift to different assumptions guiding transnational policy paradigms? Will elements of the existing paradigm be retained? Will elements of new (and in some cases, old) ways of thinking be taken in? Importantly, the authors each recognize the social and political nature of the changes that may be necessary to make the wider adoption of such a paradigm possible. The actors in each community supporting these competing frameworks are not idle.

Moving forward: Power and alternatives

It is clear that there is a contest between these paradigms. The authors indicate that this is playing out at the level of transnational and global policy (with engagement and impact on-the-ground). While the World Bank (2007) World Development Report 2008 laid out the dominant

framework based in productionism and neoliberalism, along with the problems it identifies and the policy responses that emerge from it, the IAASTD (McIntyre, Herren, Wakhungu, & Watson, 2008) report develops an agroecological framework with a rather different set of policy responses to observed problems (Clapp, 2009; Wise & Murphy, 2012). There is a clear tension between World Bank and IAASTD. For example, the World Bank (2007, p. 4) indicates that “[c]ountries follow evolutionary paths that can move them from [agriculture-based transforming into urbanized countries]...”. This perspective paints a linear model where high input productionist agriculture is inevitable. In contrast, the IAASTD report, while acknowledging the need for increased output, at the outset asks a different set of questions, such as how to “reduce hunger and poverty, improve rural livelihoods, and facilitate equitable environmentally, socially, and economically sustainable development” (McIntyre et al., 2008, p. 3).

The juxtaposition of these reports is even more important as it helps to describe the political space in which these two dialogues are operating among their authors and institutional affiliations (Clapp, 2009). The manifestation of such disagreements is also found among nation states, as seen in the differing signatories to each report. Despite being endorsed by 58 countries, three of the top industrialized agricultural producers (Australia, Canada, United States) refused to endorse the IAASTD report. A similar battle is taking place at the World Trade Organization, as the Doha Round once again collapses over disagreements on related issues. However, despite voices opposing the dominant paradigm, decisions based on its goals and values abound. In 2004, Lang and Heasman indicated that we were “on the cusp” of a transition. In the wake of the food price (as well as financial) crisis, there is an opening for the goals and values of agroecological movements to move from a marginal paradigm to normal policy, presenting a very different set of policy practices.

Proponents of the dominant paradigm are attempting to deepen its hold on the food system. As the authors in this section note, the land grab represents a further entrenchment of the dominant paradigm, as enclosure threatens to remove small-scale farmers to be replaced with capital-intensive monoculture, often for global markets. More generally, the Washington Consensus, along with global financial regulation, remains largely unchanged despite legitimacy challenges (Baker, 2012; Best, 2012; Chang, 2010).

Why is the dominant paradigm not fading more rapidly, especially after successive public crises? The accumulation of anomalies is not enough to create a paradigm shift. Nor is the existence of alternative paradigms, even with their strengthening support. There are enormous vested interests (and some short-term successes) in the dominant paradigm. There are discursive contests taking place in building and translating alternative visions for the future of agricultural policy and production (see Friedmann, this issue). As Koç indicates, it is crucial to pay close attention to the politics of food, and further, the politics of food policy. It is thus of the utmost importance to explore the multiple power structures upholding the dominant paradigm, which serve to continue and promote the current trajectory of policy (Clapp & Fuchs, 2009). Uncovering the power dynamics must take place in tandem with the continuation of developing both the theoretical and practical basis of alternative food systems as well as the policy

techniques that support them. The remaining sections of this volume do exactly this. They provide much more detail on power and process in the dominant paradigm, theoretical advances contributing alternative paradigm creation, issue areas of contestation, and on-the-ground practices of alternatives.

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*Special Issue: Mapping the Global Food Landscape***Section II****Progress on the right to food**Jennifer Clapp¹, Annette Aurélie Desmarais², and Matias E. Margulis³

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The idea of the human right to food as a legal framework to address inequalities in the global food system has become increasingly mainstreamed at the level of political discourse and public policy. Indeed, claiming the right to food on the part of individuals and collectives is now firmly entrenched in struggles for food security and food justice around the globe. The articles in this section provide a sober assessment on the successes and failures of the right to food approach. This includes a careful consideration of the various purposes and uses of the right to food, ranging from a legal doctrine to normative framework for political action to an institutional resource that enables the elaboration of new human rights.

International human rights lawyer Smita Narula observes that despite the mainstreaming of the right to food, this right remains largely one on paper as it has yet to result in meaningful change on the ground. She observes that a drawback to this approach is the nearly single-minded focus by many lawyers and human right activists to target their efforts mostly on State and corporate behaviour while omitting the responsibilities of consumers in the global North to deeper scrutiny; Narula reminds us not to forget that the consumption choices by a minority global North has major consequences on food systems and thus on the right to food of farmers, agricultural labourers and rural people of the global South.

Priscilla Claeys identifies similar weaknesses, however, she shows that the right to food has developed into an important “consensus frame” that has served as a centrifugal force fostering alliance-building among human rights activists, non-governmental organizations

(NGOs) and transnational peasant movements. These new alliances are both redefining the meaning of the right to food and its application as a tool for global social justice. In his article Philip McMichael explores a new dimension of global political struggles over the right to food in the context of international negotiations on principles for responsible investment in agriculture (rai) at the United Nations Committee on World Food Security (CFS). McMichael illustrates how the efforts of the World Bank and private sector actors to co-opt the right to food to justify a “right to invest” is inducing transnational peasant movements to counter with a “right to produce” discourse. These articles illustrate the fluidity and continued political salience of the human right to food.

Nadia Lambek’s concluding synthesis paper provides a longer-term perspective on the changing normative and political terrain occupied by the human right to food. Lambek reminds us that the right to food is a work in progress as the concept is constantly adapted and refined to address challenges in specific contexts and in response to wider global developments. She expresses optimism of what can, and scepticism of what cannot, be achieved by the right to food approach. Lambek concludes by pointing to the urgent need of all actors to support the capacity of national and local institution to implement the right to food on the ground.



Section II

Progress on the Right to Food

Special Issue: Mapping the Global Food Landscape

The right to food: Progress and pitfalls

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Over the course of the past decade the human right to adequate food has definitively emerged as a normative response to widespread food insecurity, global food crises, and to the related phenomenon of agricultural “land grabbing.” This article considers both the progress and pitfalls in using the “right to food” framework to meet the paramount challenge of ensuring equitable and sustainable access to sufficient, nutritious food for all.

The right to food under international human rights law

The right to food, as codified under international human rights law, calls on states to ensure that all people are free from hunger and that they have physical and economic access at all times to sufficient, nutritious food that is sustainably produced.¹ As part of their duty to *respect* the right to food, states must refrain from measures that prevent existing access to food. The duty to *protect* requires states “to ensure that enterprises or individuals do not deprive individuals of

¹ As codified under the International Covenant on Economic, Social and Cultural Rights (ICESCR) and as interpreted by the U.N. Committee on Economic, Social and Cultural Rights (ESCR Committee), this framework calls on states to immediately ensure that all people are free from hunger and to progressively ensure:

“The availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture;
The accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights.”

U.N. Economic & Social Council, Comm. on Econ., Soc. & Cultural Rights, *General Comment No. 12: The Right to Adequate Food*, paragraph 8, U.N. Doc. E/C.12/1999/511 (1999).

their access to adequate food.”² And the duty to *fulfill* the right to food is a positive obligation that the UN Committee on Economic, Social and Cultural Rights (ESCR Committee) has interpreted to include the duty to *facilitate* and to *provide*. The duty to facilitate implies that “the state must pro-actively engage in activities intended to strengthen people’s access to and utilization of resources and means to ensure their livelihood, including food security.”³ Where “an individual or group is unable, for reasons beyond their control, to enjoy the right to adequate food by the means at their disposal, states have the obligation to fulfil (provide) that right directly.”⁴

Progress

As a result of the work of the ESCR Committee⁵ and of successive U.N. Special Rapporteurs on the right to food, among others, the normative content of the right to food enjoys far greater clarity today than when the right was first codified. In recent years—and due in part to the efforts of civil society groups—we have also witnessed tremendous progress in recognizing the right to food as a legal entitlement, including through its inclusion in constitutions, legislation and institutional frameworks around the world (Wittman, this issue). The global phenomenon of agricultural “land grabbing” is also motivating calls for states to improve the governance of tenure of land, fisheries and forests with a view to protecting communities who are being denied agency over land and resources essential to their survival.⁶ More fundamentally, there is now far greater recognition that the right to adequate food—with its emphasis on states’ obligations and on the need to ensure that food is physically and economically accessible, sustainably produced, and nutritionally adequate for all—provides a valuable framework to help guide action on these issues, today and moving forward (FAO, 2014).

Challenges and pitfalls

Despite much progress legitimizing the right to food and securing this right as a legal entitlement, large swaths of the global population remain food insecure (FAO et al., 2014).

² *Id.*, at paragraph 15.

³ *Id.*

⁴ *Id.*

⁵ See, for example, the ESCR Committee’s General Comment No. 12 on the right to adequate food, *supra* note 1.

⁶ See, for example, the FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT), which were endorsed by the Committee on World Food Security in 2012 and which call on states to “improve the governance of tenure of land, fisheries and forests,” “with an emphasis on vulnerable and marginalized populations” and with the “goals of food security and progressive realization of the right to adequate food.” VGGT, paragraph 1.1, *available at* <http://www.fao.org/docrep/016/i2801e/i2801e.pdf>.

Ensuring the availability, accessibility, and adequacy of food for all—and translating normative commitments into concrete action—remains a matter of a great urgency. It is also rife with challenge.

Some of these challenges stem from current conditions in the global economy: Financial downturns and rising food prices are putting food beyond the economic reach of the poor (FAO et al., 2014). Corporate and financial actors continue to exert immense influence over the production, pricing, and distribution of food (ETC Group, 2013; Clapp and Mooney, this issue), while small-scale farmers and agricultural laborers remain among the most food insecure—a fact that brings to light the deep imbalance of power in a fundamentally flawed food system (Narula, 2010). Moreover, climate change patterns are expected to devastate agricultural production, while the dominant modes of food production and distribution are themselves contributing to environmental harms (Vermuelen, Campbell & Ingram, 2012).

The International Covenant on Economic, Social and Cultural Rights (ICESCR), which recognizes the right to adequate food, does not enjoy universal ratification. In particular, the lack of ratification by the United States, and its general recalcitrance toward economic and social rights (Lewis, 2009; Piccard, 2010), presents a significant obstacle for bringing a powerful actor into line—an actor whose agricultural, trade, and fiscal policies have deep impacts on the right to food, both within (IHRC, 2013) and outside the United States (Schanbacher, 2010, p. Xiii, 36).

Other challenges arise around implementing states' human rights obligations: Human rights law does not have the power to implement its normative terms, resulting in widespread impunity for violations of the right to food. Indeed an essential problem with the human rights framework is that it necessarily relies on the willingness of the state to implement reforms. Such an approach assumes a self-executing, trickledown quality of the law wherein top-down processes can effectively navigate entrenched power dynamics (Narula, 2013). The problem raised by this assumption is not specific to the right to food; it reflects a general shortcoming of the human rights framework wherein the state is both the target as well as the guarantor of the reforms promoted (Steiner, 1991). But the state and its ruling elite are not neutral agents of social change. To the contrary, state actors and domestic elites often stand to benefit from rights-violating policies and practices (Narula, 2013).

Problems enforcing rights guarantees on the domestic plane are further compounded by global power dynamics. States' human rights obligations often come into conflict with their investment, trade, or debt-servicing obligations. These conflicts are often resolved in a manner that favors the interests of powerful economic actors and of the domestic elite (Narula, 2006). To date, human rights advocates have also given primacy to ensuring the justiciability of the right to food within domestic legal frameworks,⁷ over challenging the rules of global economic governance that undermine the right to food in deeply structural ways.⁸

⁷ For a socio-legal review of domestic efforts to adjudicate economic, social and cultural rights, see Langford, 2009.

⁸ Ulrich Hoffman, for example, notes that “A major challenge is to modify at [the] international level a number of key market and market structures that act as a disincentive to the transition to truly sustainable agricultural practices at [the] national level, both in developed and developing countries. This concerns, first of all, the significant

And then there are challenges that are inherent to the framework itself: Under the ICESCR, States Parties are obligated to take steps to progressively achieve the full realization of the right to food for those under their jurisdiction.⁹ Implicit in this state-centric approach is the rationale that the right to food (among other human rights) is solely the by-product of relationships between governments and the individuals they govern, rather than relationships between global actors and individuals worldwide whose rights are affected by their actions (Narula, 2006). Under current conditions of economic globalization, the policies and practices of international financial institutions, transnational corporations (TNCs), and foreign states all have a significant impact on the right to food, yet the human rights responsibilities and obligations of these actors are not given equal consideration under international law (Narula, 2006).

The language of rights is also vulnerable to co-option. For example, the need to ensure food security and the related right to food can and has been co-opted in order to justify large-scale agricultural land transfers, often in the name of boosting food production (Borras & Franco, 2010). Yet these so-called agricultural investments are often carried out in a manner that undermines the food security and land rights of host communities—including small-scale producers and indigenous peoples, among others (CHRGJ, 2010; Shepard & Mittal, 2009)—using large-scale industrial farming practices that are harmful to the environment and that are inherently unsustainable (Czarnezki, 2011, p. 263-264).

The international human rights framework also does not give sufficient consideration to demand side issues. For example, the negative impacts of an increased demand for meat (and industrial livestock production), of biofuel production, and of food loss and food waste are now well-documented.¹⁰ In more general terms, the consumption patterns and demands of the transnational elite, particularly those in high-consumption countries, impose significant hardships on both the environment and on the rights of those routinely marginalized in the global economy. The human rights framework, however, does not have a means of taking on demand side issues or addressing the consumer as a paramount actor in shaping food and land use policies.

And finally, the anthropocentric nature of human rights ironically limits the potential of the rights framework to serve human needs.¹¹ The sustainable fulfillment of the right to food is, after all, predicate on our relationship with, and balance within, the ecosystem in which we live. The human rights framework, however, gives primacy to the rights of one species, creating an

subsidization of agricultural production in developed countries and their exports to developing countries.” (Hoffmann, 2013, p. 13).

⁹ ICESCR, Art. 2(1). Though the ICESCR contains no jurisdictional clause, the ESCR Committee has taken a jurisdictional approach in defining ICESCR obligations (Narula, 2006).

¹⁰ An increased demand for biofuels and for more resource-intensive food by consumers in emerging market countries, for example, have been cited as drivers of so-called “land grabs” in the Global South (Narula, 2013, p. 109). See also De Schutter 2014.

¹¹ For a discussion of anthropocentrism in the context of environmental law, see Emmenegger and Tschentscher (1994).

imbalance as a starting point.¹² To the extent that the human rights framework does value non-human life and the natural world, it does so in instrumental rather than intrinsic terms.¹³

Moving forward

Movement on several fronts is needed in order to secure the normative and operative relevance of the right to food as a tool to help ensure sustainable and equitable access to food for all. To begin, governments the world over must be held to account by their own citizens for violations of the right to food. Despite increasing prominence of the right to food in policy frameworks, constitutions, and in intergovernmental fora, civil society at large has yet to fully embrace the right to food as part of its human rights culture and vernacular, and as a yardstick against which to measure states' performance.

In this regard, the right to food (and related economic and social rights) must become part of the human rights culture of powerful states in the Global North, including the United States and Canada, which continue to give primacy to civil and political rights (Orend, 2006; Lewis, 2009). This involves supporting and nurturing domestic efforts to “bring human rights home” and recast pressing domestic socio-economic concerns in human rights terms (Albisa, 2009) (as well as supporting related calls for universal ratification of the ICESCR).

Second, we must close accountability gaps under international law and clarify the human rights responsibilities and obligations of global economic actors. This includes continuing the important work of articulating states' extraterritorial human rights obligations that takes into account the obligations of states to individuals outside their territory or jurisdiction (Langford et al., 2012),¹⁴ including their responsibilities to regulate the foreign activities of domestically-based TNCs (Narula, 2012). Efforts to assign direct human rights responsibilities to non-state actors such as TNCs and other business enterprises, and to international financial institutions like the World Bank, must also move forward.¹⁵

Third, and with the responsibilities and obligations of global economic actors in mind, much more needs to be done to end regime conflicts and ensure policy coherence between states' human rights obligations and their trade, investment, and debt-servicing obligations (Gonzalez, 2014; Yeshanew, 2014). Here, human rights advocates have a key role to play in underscoring

¹² As articulated in the Universal Declaration of the Rights of Mother Earth, “in an interdependent living community it is not possible to recognize the rights of only human beings without causing an imbalance within Mother Earth... to guarantee human rights it is necessary to recognize and defend the rights of Mother Earth and all beings in her...” The Declaration was adopted in 2010 in Bolivia at the World People's Conference on Climate Change and the Rights of Mother Earth. For more on the Declaration, see <http://therightsofnature.org/universal-declaration/>.

¹³ Put differently, the human rights framework values non-human life and the natural world primarily to the extent that they service human needs.

¹⁴ In this regard, see the *Maastricht Principles on Extraterritorial Obligations of States* and work of the “ETO Consortium” at <http://www.etoconsortium.org/>.

¹⁵ See, for example, initiatives to support the development of an international legally binding instrument on transnational corporations and other business enterprises with respect to human rights: www.treatymovement.com.

and promoting the responsibility of states and multi-lateral institutions to respect and protect the right to food (Lambek, 2014; Narula, 2006), including by ensuring that the rules of global economic governance neither conflict with nor trump states' paramount obligation to ensure human rights.

Fourth, and in order to support states' duties to facilitate the right to food, we need to fundamentally reevaluate an increasingly discredited philosophy: that large-scale industrialized agricultural production can ensure the food security needs of the planet in a sustainable and equitable way. The World Bank-led productivist paradigm essentially reduces the right to food to a production problem (as opposed to an access problem) and offers agricultural investment (through large-scale land transfers and industrialized agricultural production) as the primary solution (McMichael, this issue). Such an approach additionally assumes that the environmental risks and rights violations inherent in large-scale land transfers are necessary to service agricultural productivity and efficiency goals (Narula, 2013).¹⁶ These assumptions, and the policy prescriptions that flow therefrom, have already proved deeply problematic for rural communities in host countries.¹⁷

Rather than proceeding with business as usual, we must instead support agrarian policies that favor agro-ecological practices and small-scale farming, including policies that redistribute land in favor of smallholder farmers (De Schutter, 2010a; De Schutter, 2010b; Rosset & Martinez-Torres, 2013). Such reforms will not only support environmental goals, but will also help ensure global food security for the simple reason a majority of those who are hungry today depend on small-scale agriculture. They are hungry because they do not receive a fair price for their crops and because they are cultivating plots of land that are too small, which makes them net food buyers (De Schutter, 2010a). These reforms also provide important opportunities to support the empowerment of women. Although women make up the majority of small farmers, they own less than 1 percent of land and face severe constraints in accessing credit and other resources (De Schutter, 2012).¹⁸

Fifth, the language of human rights must be deployed and supplemented in a manner that *strengthens*, rather than undermines, people's access to and utilization of resources and means to ensure their livelihoods, including food security. In this regard, the food sovereignty and peasants' rights movements have emerged as formidable responses to the deficiencies in (and

¹⁶ On this point, Philip McMichael—in the context of discussing food sovereignty as a strategic countermovement—points to “a continuing crisis accompanying the long-twentieth century food regime and its competitive assault on farming systems across the world. This assault, in the name of free trade, development and food security, has imposed a model of ‘agriculture without farmers’ in a world equating industrial efficiency with human progress.” (McMichael, 2013, p.1).

¹⁷ A 2010 World Bank study of agricultural land investments found that many investments have “failed to live up to expectations and, instead of generating sustainable benefits, contributed to asset loss and left local people worse off than they would have been without the investment.” (Deininger et al., 2010, p. 71).

¹⁸ For more on the linkages between gender discrimination and the right to food, see <http://www.srfood.org/en/gender>.

sometimes co-option of) the human rights frame.¹⁹ These movements have, to date, worked to supplement rather than supplant the right to food framework.²⁰ Proponents of the right to food, too, have laid considerable groundwork to connect peasants’ rights and equitable land distribution with the right to food.²¹ It remains to be seen whether these alliances will bear fruit and deliver meaningful policy reforms that give agenda-setting power to communities most affected by our global food system.

Finally, the roles and responsibilities of consumers—i.e., the demand side of world food system—must be brought into the mix. Here, much work needs to be done to connect the dots for the general public between consumption patterns and consumer demand on the one hand, and the dispossession of rural communities and exploitation of agricultural workers on the other. In addition, much more can and should be done to foster meaningful alliances between food (or I should say “foodie”) movements in the Global North and food sovereignty struggles in the Global South. More fundamentally, even as we call for a paradigm shift from states and other global actors, we must be willing to make that shift ourselves. Specifically, we must begin to question, problematize, and alter our own consumption patterns.²²

To conclude, much progress has been made over the past decade to cement the right to food as both a legal entitlement and as a normative response to food-related crises. But as detailed above, ensuring the right to food is not a self-fulfilling prophecy; rather, it is rife with challenges. With concerted action on multiple fronts, the right to food framework does have the potential to support a major rethink of how we communicate and act on broad questions of hunger, food production, and land distribution, so long as the framework and its proponents can push beyond international human rights law’s normative and practical constraints. And so long as we, as consumers, are ready to finally bring ourselves into the conversation.

Questions for future research:

- What kinds of strategies have proven most effective at generating political will and ensuring that states take steps to implement their right to food obligations? What are the

¹⁹ As a policy paradigm, food sovereignty stands in distinction from “food security” and the “right to food,” both of which are seen to have distinct and much narrower meanings (Windfuhr & Jonsén, 2005, p. 23). Peter Rosset argues that “[o]nly food sovereignty based on genuine agrarian reform, and the defense of land and territory against land grabbing, offers a real alternative to the multiples crises we are facing.” (Rosset, 2011, p. 28).

²⁰ Priscilla Claeys, for example, explores how La Via Campesina, a transnational agrarian movement, “has worked towards institutionalizing new categories of rights, such as the ‘right to food sovereignty’ and the ‘rights of peasants’, thereby contributing to the creation of new human rights standards at the United Nations.” (Claeys, 2014, p.1)

²¹ See, for example, the work of the non-governmental organization FIAN International (<http://www.fian.org/what-we-do/issues/>) and that of the former U.N. Special Rapporteur on the right to food, Olivier De Schutter, on the subject of land and peasants’ rights: <http://www.srfood.org/en/land-rights>.

²² Lorenzo Cotula, in the context of discussing biofuel promotion policies, poignantly notes that “shifting energy sources in high-consumption countries is seen as politically more palatable than reducing consumption levels.” (Cotula, 2012, p. 669).

social, political and economic conditions in which these strategies resonate?

- In what specific ways does a state’s right to food obligations inform its trade, agricultural, fiscal, environmental, public health and social welfare policies? And what policy reforms are needed at the international level to help ensure a state’s authority and ability to regulate in these arenas?
- What kinds of research and advocacy tools are needed to help illuminate the social and ecological consequences of our consumer culture and our food consumption patterns? And how can we foster more meaningful alliances between consumer-led food movements in the Global North and peasant-led food sovereignty movements in the Global South?

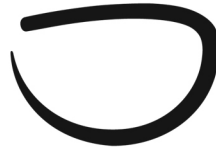
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Section II

Progress on the Right to Food

*Special Issue: Mapping the Global Food Landscape***The right to food and politics of knowledge**Philip McMichael¹

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This article concerns a particular struggle over the right to food, as played out recently in the Committee on World Food Security (CFS), within the UN's Food and Agricultural Organization (FAO). As a relatively new participant in the CFS, the Civil Society Mechanism (CSM), representing land-using social movement organizations and progressive non-governmental organizations (NGOs), was successful in 2010 in convincing the CFS to reject *investor-driven* Principles of Responsible Agriculture Investment (PRAI)² formulated under World Bank leadership. Instead the CFS would consider a *producer rights-driven* reformulation of “responsible agricultural investment” (rai) (CFS, 2014). In its initial drafting, the rai was framed as a rights-based initiative through which all states could implement domestic forms of food security and nutrition. Over the two years of development of the rai principles, it became increasingly clear that the “right to food” concept informed quite different visions of how to stimulate “food security”.

For the CSM, the rights-based framework requires the right to *produce* food by small-scale producers and workers. This follows from the social fact of small producers being the majority food producers across the world, and in many states a vital agrarian foundation for the realization of domestic food security. Ranged against this claim are those forces advocating global food security via export agriculture—in the form of large-scale plantations or “value

¹ The author acknowledges the support of a Research Council of Norway grant: “Cultures, Values, Ethics, Arguments and Justifications in the Management of Agricultural Land (FORFOOD)”, Center for Rural Research, Trondheim, 2013-16, and inspiration from Birgit Muller.

² Which former UN Special Rapporteur on the right to food, Olivier De Schutter, characterized as “responsibly destroying the world's peasantry” (2010).

chains” supplying global grain traders, processors, retailers, and/or agrofuels providers. Within the CFS terms of debate, this ontological divide is routinely reduced by powerful “free trader” states and their corporate counterparts in the CFS’s Private Sector Mechanism (PSM) allies to a discourse ensuring investor rights on a global scale, justified by productivist language (i.e., industrial technologies and efficiencies of production and circulation). Investor rights language seeks to coopt “food security” discourse by privileging (corporate) markets over *extant* producer rights and food sovereignty principles of reducing food dependency and supporting domestic producers and their local market systems.

Responsible agriculture investment principles

The CFS Terms of Reference to develop rai principles arose in a “food crisis” context of export bans and price volatility (McMichael, 2009), competition for land between food and fuel crops (Borras, McMichael, & Scoones, 2011), accelerated land grabbing (White, Borras, Hall, Scoones, & Wolford, 2013), and growing awareness of ecosystem degradation (Millennium Ecosystem Assessment, 2005). Development and multilateral agencies realised that, after decades of neglect and erosion of support for small producers, agricultural renewal was critical to rural development, food security and environmental sustainability. The CFS has recognized the overwhelming role of small-scale producers in feeding the majority world and working the land. Given its mandate to promote food security, the CFS has framed its rai initiative in the context of the progressive realization of the right to food within policies promoting national food security (Claeys, this issue). The normative framework for such rights-based, “responsible” agricultural investment is elaborated in two key publications of the CFS: a Global Strategic Framework for Food Security and Nutrition (CSF, 2012), and the Voluntary Guidelines on the Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (CFS 2013a). These reports followed several years of advocacy and leadership by the International Planning Committee for Food Sovereignty, which was instrumental in establishing the CFS’s Civil Society Mechanism (McKeon, 2015).

From the normative perspective, the members of the CFS’s Civil Society Mechanism (CSM) believe that investment in agriculture is responsible only insofar as it prioritizes the rights of small-scale producers and workers, in addition to the progressive realization of the right to food in national food security programs. This is consistent with FAO and CFS recommendations and reports regarding the special needs of small food producers and food workers, and the overwhelming preponderance of smallholder labor and cooperative investment in agriculture. Thus, the CFS’ High Level Panel of Experts Report on smallholder agriculture noted:

Smallholder agriculture is practised by families (including one or more households) using only or mostly family labour and deriving from that work a large but variable share of their income, in kind

or in cash... it includes crop raising, animal husbandry, forestry and artisanal fisheries.... Off-farm activities play an important role... in providing smallholders with additional income and as a way of diversifying risk... smallholders producing only or mainly for subsistence are not uncommon... smallholder's families are part of social networks within which mutual assistance and reciprocity translate into collective investments (mainly through work exchanges) and into solidarity systems (CFS 2013b, p. 10-11).

In addition: “Smallholder agriculture is the foundation of food security in many countries and an important part of the social/economic/ecological landscape in all countries” (Ibid, p. 11), and the “potential efficiency of smallholder farming relative to larger farms has been widely documented, focusing on the capacity of smallholders to achieve high production levels per unit of land through the use of family labour in diversified production systems” (Ibid, p. 12).

For CSM participants, investment support for small producers requires both complementary and regulatory dimensions. *Complementary* investment includes ecosystem renewal for farms and landscapes, and infrastructural support for access to water, markets and extension services. At the same time, *regulation* and monitoring of private investment is necessary to ensure protection of the rights and role of small-scale producers in enhancing domestic food security. Since small-scale producers are the majority food producers across the world,³ eradicating hunger and malnutrition and ensuring domestic food supplies require substantial increases in the level and orientation of *public* investment to ensure and enhance their role in national food provisioning (see Desmarais, Wittman, and Wolford in this issue). “Responsible investment” thus means priority investments in small-scale producers’ and food system workers’ capacities and rights to produce food for their fellow citizens. To be consistent with FAO/CFS recommendations means providing a conducive and rights-based policy framework, centered on the majority producers.

The land question, producer rights and farming models

The reasoning of the CSM with respect to the right to food is as follows: since the CFS recognizes small-scale producers as the majority food producers and investors in agriculture, the rai is only responsible insofar as it centers on stabilizing and developing local and national agri-food sectors. Land grabbing does not have this orientation or value, focusing as it does on profiting on land speculation or industrial food production for global markets (cf. Borras, et al., 2014; Akram Lodhi, this issue). In the name of producer rights and the progressive realization of

³ For example, accounting for 80% of food in Africa and Asia, 90% of fish from artisanal fishers, and up to 70% of the world's food (ETC Group, 2009).

food security and nutrition it is therefore unacceptable to allow, or even enable, the involuntary transfer of land via financial investment.

Rather than allow private investors to call the tune, by reclassifying and retitling land for private acquisition and profit, states should empower themselves to defend the public interest by protecting their agrarian capacity. This programmatic vision advocated by the CSM has had difficulty gaining traction, arguably because most states in the global South depend on export revenues to defray debt and to purchase staple foods to meet food dependency needs (see Murphy, this issue). In other words, the systematic privatization of states, by which public capacity has been dismantled and/or sold off to private interests, has reduced the ability of governments to rekindle public investment, entrenching a neoliberal reflex by which state policies favor market solutions. These structuring forces are reinforced now by the rising incidence of public-private partnerships (PPP), as initiatives like the New Alliance for Food Security and Nutrition (NAFSN) subordinate public policy to private investment and corporate markets (see McKeon, this issue), and the World Bank's new program of *Benchmarking the Business of Agriculture* to “identify areas of improvement” for competing for financial investments.⁴ Alongside such developments, while the CFS/HLPE report on smallholder investments (2013b) recognizes “smallholders as the main investors in agriculture” the rai principles undermine that statement by affirming the truism that they are the main investors only *in their own* agriculture.

A recurring theme in rai discussions was that rai is for *all* investors, big and small, and that rai itself is about enabling the capitalization of agricultural resources. The PSM and government allies (in particular the U.S., Canada and Australia) routinely lump “smallholders” with “large-holders” as if they practice the same kind of agriculture, and in the name of balance. This artificial balancing of different ‘stakeholders’ pervades the CFS dialogue. It is artificial for two main reasons: (1) some ‘stakeholders’ are more equal than others—that is, large investors have more resources and lobbying power, their interests coincide with cash-strapped governments, and they drive, and benefit from, land grabs; (2) there is no “balance” between large and small “investors” because their forms of investment are incommensurate and incompatible. Accordingly, investment principles apply neither *equally* nor *similarly* across this divide. Gaining traction with this distinction has also been ultimately unsuccessful, given the hegemony of a financial understanding of investment—which combines a modernist assumption that industrial technologies should replace labor as the measure of progress, with a general stigmatization of agricultural labor as if it has no scientific dimension (Ploeg, 2009).

Small producers and large investors do not share a single vision and mode of operation. Large-scale investors favor commercial input-output “agriculture without farmers”, as Vía Campesina notes, overriding the natural resource base with alien seeds and agro-chemicals.

⁴ The Bank's “benchmarking producers comparisons and contrasts that will stimulate policy change” (World Bank, 2014) – policy change, that is, in the Bank mold, now termed “the process of agricultural transformation” – involving reforms “towards a more favorable enabling environment (to) support the growth and productivity of small, medium and large-scale farmers engaged in agribusiness” (Idem).

Industrial agriculture is neither sustainable nor does it have a social purpose—it is driven by distant market signals and private wealth and not the needs of local citizens. Small-scale producers, by contrast, invest in sustaining the natural resource base (soil fertility, water cycles, seed exchange and knowledge sharing networks), building a different kind of agro-ecological wealth, valuing land regeneration and reproduction of local and national communities—by necessity and/or conviction, depending on local circumstances (Ploeg, 2009, McKeon, 2015). Where “agro-ecological approaches” are mentioned they are coupled with a recommendation for “sustainable intensification”, or “smart agriculture”, via the “use of genetic intensification to increase crop yields, enable nitrogen uptake and fixation, improve nutrition and enhance resilience to pests and diseases and climate change” (The Montpellier Panel, 2013, p. 21). As above, combining these two approaches in the formal interest of “stakeholder balance” in the CFS conflates the difference between these farming models, thereby obscuring the significance of choosing between them in addressing socio-ecological resilience.⁵

Challenging times

In the CSF, the PSM and its allies claim to be simultaneously “pro-poor” and “pro-growth”, and yet “pro-growth” policies have, by the World Bank’s own admission,⁶ regularly discriminated against the poor in the name of “trickle-down” capital growth, prioritizing large investors whose market horizons do not include majority needs. This claim stems from an unproblematic assumption that any increase in investment is positive, when in fact it often involves resource grabbing at the expense of the poor and small-scale producers and agricultural workers. Resource grabbing includes land and water grabbing, as well as labor grabbing. In addition to landless labor on commercial plantations, contract “farmers” labor with agro-input packages to produce what is profitable for distant markets and retailers. Resource grabbing also includes the capture of public subsidies and credit to support private energy and agrochemical firms and their agribusiness partners, as well as philanthropic and overseas development assistance funds that overwhelmingly privilege private investment initiatives (McMichael, 2013). Increased investment may be positive for private interests, but it may weaken small producers, local food systems and markets, soil resilience, and, importantly, the will to develop public policies for domestic food security.

⁵ The IAASTD Report (2008), for instance, clarifies the difference in terms of the greater resilience of agroecology and the rights and knowledges of small-scale producers.

⁶ For example, the Bank acknowledges that earlier structural adjustment policies (which continue today): “...dismantled the elaborate system of public agencies that provided farmers with access to land, credit, insurance inputs, and cooperative organization. The expectation was that removing the state would free the market for private actors to take over these functions . . . Too often, that didn’t happen” (World Bank, 2007).

These sentiments and practices drive the predominant interpretation of the rai process as being about managing financial investment in the interests of “agriculture for development” (World Bank, 2007)—and, alarmingly, legitimize the expansion of projects such as the New Alliance (NAFSN) behind the back of the rai/Tenure Guidelines principles. The World Bank’s “agriculture for development” is a *singular* vision that prioritizes investor rights over the rights of small-scale producers to maintain and strengthen their investment in the public good rather than for private gain. Because this discourse lumps all investors together as stakeholders in “growth”, it obscures (and trivializes) the distinctive model of production of small-scale producers, as well as the adverse impact of large-scale investment in agriculture on them. In addition to involuntary transfer of land, other adverse impacts include chemicalization of the land, growing toxicity in farmworker bodies and watercourses, dispossession of farmer capacities, population “resettlement” and expansion of urban slums.

In sum, the challenge facing the CSM is to reorient the rai process: *from* the right of private investors to practice (ill-defined and voluntary) “responsible” agricultural investment *to* the right of small-scale producers to produce food in the public interest of domestic food security; and *from* private investor rights *to* the rights of farmworkers, indigenous peoples, women and other such groups to protection against exploitation. Since the rai has now been endorsed (October 15, 2014), the challenge for grassroots movements and NGOs is to monitor financial investments and their impact on and implications for human rights. This includes continuing to advocate for collective rights—to territory and to produce (rather than simply purchase) food—important dimensions in the current Peasants’ Rights Convention campaign, the objective of which “is not just to secure compliance with international norms, but to shift the norms themselves” (Edelman & James, 2011, p. 91). To reframe the question of rights in this way relates hunger to “land grab” denial of small-producer rights to their land and livelihoods, and links “sovereignty” to producer rights and productive capacities (including infrastructural needs).

Conclusion

In conclusion, to the extent that implementation of the rai eschews public policy efficacy in realizing the right to (produce) food and nutrition accomplish this, one might say the rai process represented a “land-grab trap”. That is, while the debate and subsequent set of principles regarding responsible investment were precipitated by land grabbing, the overwhelming economic language in both the debate and the final document regarding investment privileges financial investment, trivializing the significance of small-scale producers being the “main investors”, and, therefore, privileging financial over “natural” capital. Thus the process of elaboration of principles enabled the possibility of continued land acquisition at the expense of the majority producers. To avoid this “trap” the rai would have clearly distinguished between regulating financial value capture of land and related resources via corporate investment, and

supporting small-scale producers and workers as promoting multifunctional livelihood activities, with substantial ecological benefits. As it was, CSM was compelled to focus on inserting qualifiers in a document that *appears* to be about investment, but avoids really tackling it—thereby playing into the hands of the PSM, and “free-market” states such as the US, Australia and Canada. And of course the rai principles are ultimately voluntary.

This is, however, a long “war”, and rai is just a “battle” along the way. Future research should consider how to: (1) shift the goal posts in the direction of really privileging diversified small-scale land use, including documenting the multitude of socio-ecological experimentation underway across the world in various locales, (2) establish the critical need to sustain (by supporting) rural cultures which have the capacity (if adequately subsidized) to practice a more productive and resilient farming of land, forests and waterways, and address the Right to Food substantively, and (3) invert an urban-centered narrative of modernization and development, to underline humanity’s ultimate dependence on farming systems, place-based knowledge and ecological health.

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Section II

Progress on the Right to Food

Special Issue: Mapping the Global Food Landscape

The right to food: Many developments, more challenges

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The right to food (RTF)¹ has enjoyed growing recognition in the last decade. It has achieved legitimacy and visibility in international governance debates, where it is increasingly perceived as a useful “policy guide” (De Schutter, 2009). The realization of the right to food is recognized as a goal of the reformed UN Committee on World Food Security (CFS), both in its mandate and in its Global Strategic Framework. The reports and interventions of the UN Special Rapporteur on the right to food have received a lot of attention in recent years. Despite these developments, the RTF is still actively resisted and rejected by some states (notably the U.S. and Canada) on the grounds that economic, social, and cultural rights (ESCR) are not justiciable and hence not “true” human rights (Anderson, 2008; Chilton, 2009). Yet in many countries, the justiciability of the RTF is firmly established, as demonstrated by some famous court cases in India (school meals program) and South Africa (fisheries) (Courtis, 2007; Golay, 2011).

2014 marked the ten year anniversary of the Voluntary Guidelines on the RTF; and at the national level, a number of institutional developments have taken place over last decade. Constitutional recognition of the RTF is on the rise (Wittman, this issue), and a series of countries have adopted framework laws and/or RTF strategies, in particular in Latin America, often with the involvement of parliamentarians (De Schutter, 2013), but also in Africa (Rae,

¹ The RTF can be defined as the human right “to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensures a physical and mental, individual and collective, fulfilling and dignified life free of fear” (Ziegler 2008, p. 17).

2014). These essentially legal developments tend to embody “change from the top”² and suffer serious implementation and enforcement problems. They have, so far, had very little impact on food insecurity. They nevertheless mark the beginning of a new stage in the global struggle for the RTF: the end of a period of intense normative elaboration,³ which enabled the codification and interpretation of the RTF in nearly all of its dimensions (Eide, 2007), and a new era where the focus is on its promotion, adoption and implementation (Frison & Claeys, 2014).

An important development over the last decade is the appearance of new actors in the field of right to food advocacy that had long been dominated by a small group of non-governmental organizations (NGOs) working on economic, social and cultural rights such as FoodFirst Information and Action Network (FIAN) and Center for Economic and Social Rights (CESR) and by church-based NGOs (such as Misereor). Today development and social justice NGOs, such as Oxfam and Action Aid, have endorsed a rights-based approach⁴ to food security; however, with a relatively broad interpretation of a “rights-based” approach (Uvin, 2007) and a focus on process and accountability. Also, mainstream human rights organizations such as Amnesty International and Human Rights Watch, which had long refused to tackle the RTF, have slowly expanded their mandate to include it (often following pressure from members but also in order to attract new constituencies) (Chong, 2008).

In parallel, the transnational RTF advocacy network has consolidated alliances with rural constituencies (in particular peasant movements, fisherfolk, pastoralists but also indigenous peoples) at the local/national but also international level. Particularly important are interactions with the International Planning Committee for Food Sovereignty (IPC) and the Civil Society Mechanism of the CFS (see McMichael in this issue). The IPC, a global network of civil society organizations (CSOs) and NGOs concerned with food sovereignty, has focused on advocacy and institutional dialogue with the Food and Agriculture Organization (FAO) in Rome (see McKeon in this issue).

Beyond the CFS, ad-hoc coalitions between RTF advocates and rural constituencies have also been established to conduct joint advocacy in other international arenas, for example to advance new rights for peasants, such as the right to land, at the UN Human Rights Council. This is exemplified by the ongoing process to negotiate a Declaration on the Rights of Peasants and other people living/working in rural areas initiated by La Via Campesina in conjunction with human rights experts and the backing of the Bolivian government (Claeys, 2015a).

² For Kennedy, these developments are somewhat symptomatic of the human rights community’s attachment to “legal formalization” and to the establishment of legal machinery as an end in itself (Kennedy, 2002, p. 110).

³ It should be noted here, however, that if normative elaboration of the RTF is almost completed, applying the RTF lens to “new” food security issues remains highly relevant, in a context marked by constantly emerging new global and national as well as local food security challenges (from land/green grabbing, to contract farming, new business models, re-localization and climate change).

⁴ The much advertised mainstreaming of rights-based approaches to development in the 1990s has been a complete failure, and has not been implemented in UN agencies and only barely by the NGO community, with few exceptions.

Key challenges facing the right to food

The most central challenge facing the right to food today is no doubt the almost complete absence of implementation at the national level, and persistent food insecurity in both the global South and North. Lack of implementation of the right to food is partly hindered by a disproportionate focus placed by the human rights framework (and the human rights community) on State obligations that leaves the human rights responsibilities of non-state actors inadequately considered. A number of renowned human rights experts have sought to remedy this “gap” in recent years by proposing extra-territorial obligations (ETOs) to attribute legal responsibilities to international organizations, transnational corporations (TNCs), and on states operating outside of their territories. This welcome development indicates a move away from the dominant “statist framework” (Falk, 1988, p. 18), but it is far from being endorsed by states and the actors concerned. The main target of human rights (HR) advocacy remains the state, although recent developments at the UN Human Rights Council that seek to elaborate on the human rights obligations of TNCs are promising (FIAN International, 2014).

A related challenge facing the RTF is the fact that economic, social and cultural rights advocacy is by definition ambivalent toward the State (Nelson & Dorsey, 2008). In alignment with the *respect, protect, fulfill* typology of States’ obligations, RTF advocacy demands an end to the HR violations caused by the state, while simultaneously turning to the state to demand the delivery of “state services” (more state). This dual nature of RTF advocacy is noticeable in the significant tension between a structural approach to the RTF (embodied in demands such as the redistribution of resources, access to land and agrarian reform, an alternative trade framework, etc.) and a social-democratic approach (Stammers, 1995) to the RTF (embodied in demands such as social security, improved focus on nutrition, safety nets).

A key challenge facing RTF work in the years to come is to ensure that structuralist and social-democratic approaches be integrated into a progressive and coherent RTF framework. Two factors are likely to influence how this tension plays out in the future. The first is the outcome of future RTF court cases. Growing recognition of the justiciability of the RTF has contributed to an increased focus on the “fulfillment” dimensions of the RTF (social security, food aid) at the expense of the “respect” and “protect” dimensions, leading to an under-exploration of the structural implications of the RTF (control over land and resources, redistribution). As pointed out by Lambek (2014), the right to food is too often imagined as solely a positive right, placing obligations on the State to provide food to the hungry, at the expense of the obligations that derive from the negative dimensions of the right to food, i.e. the obligations of the state not to hinder the ability of individuals to meet their own food needs. This tension between the structural and social-democratic approaches to the RTF was salient during debates around the *Right to Food* bill in India (Joshi, 2009) and on the question of addressing structural obstacles to the realization of human rights within the Inter-American Human Rights System (Abramovich, 2009).

The second factor is the persistent “lack of constituency” for economic, social and cultural rights in general (Nelson & Dorsey, 2008, p. 83) and for the RTF in particular. More than 60 years after the adoption of the Universal Declaration of Human Rights, which recognized the RTF, the number of hungry people in the world remains unacceptably high (at almost 870 million people chronically undernourished in 2010–12) (FAO, 2012). The fact that there is no global movement⁵ demanding the RTF (unlike other rights such as women’s rights or indigenous rights) is troubling and highly paradoxical in the “age of rights” (Henkin, 1990). The lack of constituency is puzzling, considering the prominence of rights in the discourse of peasant and other rural movements who represent the bulk of the hungry and have developed a rights-based “food sovereignty” frame (Desmarais, 2007; Rosset & Martínez-Torres, 2010). While many agrarian movements have included the RTF in their list of claims, these movements have refrained from using the RTF as their main collective action frame, and have articulated their claims around the demand for new human rights for rural people (Claeys, 2012).

Progress on the RTF in the future

A combination of the respective strengths of the RTF and “food sovereignty” frameworks—and actors—could be very effective in creating social change (Claeys & Lambek, 2014). This articulation, however, has proven difficult to achieve for reasons I discuss in detail elsewhere (Claeys, 2015b). So has the alliance with other local and national movements and organizations working towards food justice (Holt-Gimenez, 2011), agroecology (Holt-Giménez, 2010), climate justice (Bullard & Müller, 2012), critical consumption (Pleyers, 2011), and transition (Sage, 2014).

The idea of a human right to land and territory (Künnemann & Monsalve Suárez, 2013) could emerge as a galvanizing and alliance-creating frame in the years to come. This is possible if institutional developments—such as the recognition of a new human right to land (De Schutter, 2010) in international law—works hand in hand with social mobilizations around “land sovereignty” (Borras & Franco, 2012). Such a frame is increasingly powerful in the global South, where struggles against land grabbing and the appropriation of nature are countless (Margulis, McKeon, & Borras, 2013). It is having greater resonance in the global North where access to land by young farmers is now recognized as a major problem. By extension,⁶ the advancement of the human right to land and territory would require that rural and urban, peasant, indigenous and other social movements find ways to articulate, respectfully and meaningfully,

⁵ Contrary to what the UN Special Rapporteur affirms in his 2013 report to the UN General Assembly (De Schutter, 2013), there is no global right to food movement emerging, in my opinion. Rather there is a transnational RTF network that has a “right to food and nutrition” dimension (with a focus on nutrition and urban poor) and a “right to land and resources” dimension (with an agrarian focus, and a strong emphasis on supporting agrarian movements).

⁶ The process of “frame extension” designates efforts by movement activists to depict social movement interests and frames as extending beyond its primary interests (Benford & Snow, 2000).

the various understandings of the rights to land that circulate among their constituencies; this is particularly pressing in the North where the “local food” frame remains a central axis for latent social change (Starr, 2010).

At the same time, considering the opening of new spaces for civil society participation (e.g. the CFS) at the global level (Duncan & Barling, 2012) and the emergence of new models of global norm-making that are tied to new understandings of legitimacy, the advancement of the RTF could benefit from advocates redefining their strategies and reconsidering where to put their efforts. Should they work inside or outside? Should they target the state or other actors? Should they create new transnational alliances, and if so, with whom? How to articulate the development of local alternatives that seek to carve out autonomous spaces “away” from the system with efforts to change the rules that regulate the ways in which the system works? How the actors defending the right to food and food sovereignty will address these challenges in the future will be worth exploring closely, and will be a matter of great academic interest.

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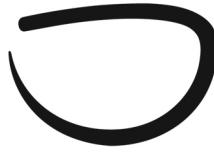
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Section II

Progress on the Right to Food

Special Issue: Mapping the Global Food Landscape

The right to food: Reflecting on the past and future possibilities—Synthesis Paper

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As scholars and activists met in Waterloo, Canada in September 2014 to discuss progress and obstacles in adopting the right to food, similar discussions were being held by the Food and Agriculture Organization of the United Nations (FAO), and among civil society organizations (CSOs), non-governmental organizations (NGOs) and social movements around the globe. These parallel discussions marked an important milestone as well as political moment in the history of the right to food: the tenth anniversary of the *Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security*.¹ Together, the various discussions provide an important opportunity to assess the right to food, not only for how it has been implemented as a legal doctrine by states and international institutions, but more broadly for how the right to food has and could be used as a frame for collective action and as an analytical tool to understand our food systems. Indeed, while the right to food is at its core a legal doctrine, it has been used and framed in a number of respects as a broader concept and tool by actors over the years.

In this paper, I highlight and reflect upon the contributions of Smita Narula, Priscilla Claeys and Philip McMichael to this special issue, as well as key elements of the conversation that took place in Waterloo. I begin by exploring some of the many faces of the right to food by

¹ The *Voluntary Guidelines*, which offer states a guide to adopting the right to food domestically, were unanimously adopted by the member states of the UN Committee on World Food Security (CFS) a decade ago, after a participatory negotiation process that engaged CSOs and NGOs. For more information on the CSOs, NGOs and social movements' evaluation of progress and obstacles in implementing the right to food, on the occasion of the ten year anniversary of the *Voluntary Guidelines* see Lambek, 2014.

examining and contextualizing examples of the failures and successes of the right to food as a concept or tool. I then look forward, addressing the topic of new rights elaboration, which was a recurrent topic of conversation in Waterloo, and how the experience of the right to food may (or may not) be of assistance to actors in search of more just, sustainable, and equitable food systems.

Failures of the right to food: A legal doctrine without acceptance

Perhaps the biggest failure of the right to food has been as a legal tool to change the behavior of states. In the past decade, there has been considerable success on paper at implementing the right to food domestically, through the passing of framework laws (e.g. Ecuador, Venezuela, and Zanzibar), constitutional provisions (e.g. South Africa, Kenya, Brazil) and national policies (e.g. Uganda, Brazil), as well as through recognition and enforcement by courts (e.g. India, Guatemala, the Court of Justice of the Economic Community of West African States) (Lambek, 2014; see also Wittman in this issue). It is worth noting that legal frameworks, and in particular constitutional recognition, are important tools for creating legal rights that individuals can use to require accountability from states, and to secure court verdicts requiring state compliance with obligations or to remedy violations. However, these advancements have to date largely not influenced state behaviour or translated to experiences of reduced food insecurity on the ground for individuals and communities (Lambek, 2014). Furthermore, even with the number of countries growing, it is still a minority of states that recognize and enforce the right to food. Canada, for example, despite having ratified the International Convention on Economic, Social and Cultural Rights (ICESCR), does not recognize the right to food in the *Charter of Rights and Freedoms*, or any legislation (or for that matter, the enforceability of the ICESCR itself).²

The right to food as a legal doctrine has also largely failed to shape international law and legal processes. Despite major efforts by CSOs, NGOs and social movements, key players including the World Bank, World Trade Organization (WTO) and even the (nominally sympathetic) FAO have failed to take a rights-based approach in their operations. The Committee on World Food Security (CFS), following its 2009 reform, has been the exception, serving as an important political space for advancing the right to food as a legal doctrine as well as showcasing a more inclusive and participatory governance model (see McKeon and Duncan,

² The Canadian Supreme Court has rhetorically left open the possibility that one day the *Charter* section 7 right to “life, liberty and security of the person” could encompass economic rights and enforce positive obligations on the state, however, to date it has never found as such (*Gosselin v. Québec*, 2002, at paras. 82-83). So while the *Charter* prevents against discrimination on the basis of enumerated grounds (which notably do not include social conditions), it does not require the state to provide food, facilitate the ability of people to meet their food needs, or address poverty more broadly. The government of Prime Minister Stephen Harper has also taken an increasingly hostile stance on the right to food, as can be seen in its negative response to the 2012 mission to Canada by the UN Special Rapporteur on the right to food (see Food Secure Canada et al., 2012), and its attempt to block the adoption of the human right to food as a guiding norm of the reformed UN Committee for World Food Security (CFS) (see Margulis, 2015).

this issue). Indeed the CFS has emerged as a site of progressive global food governance, and a forum for challenging the dominant narratives regarding tackling food insecurity. For example, the CFS withdrew its support for the World Bank's *Principles for Responsible Agricultural Investment*, and instead initiated inter-state negotiations for new principles that would recognize the importance of small-scale producers and the right to food. Nevertheless, as argued by McMichael in his article, fears remain that the CFS's process may be co-opted by more powerful forces, such as an alliance among Northern states and the private sector bloc at the CFS, to move the focus of the new principles away from stabilizing local food and agricultural systems towards investor rights (see also Vander Stichele in this issue). Moreover, despite its success, the CFS still remains a small player among international institutions. The CFS is unable to capture and alter trade law and policy, and is often left only to fill the governance spaces not taken by the World Bank and WTO (Murphy, McKeon and Margulis, this issue).

It may be relevant to ask whether these failures are a problem with the right to food legal doctrine itself, or whether they are driven by powerful forces deeply resistant to the radical transformation that would be necessary to achieve the right to food (at least as it is currently understood by CSOs, NGOs, scholars and the UN Special Rapporteurs on the right to food). When looking at wider developments around the globe, it is clear that the rights-based approach has gained more traction in movements for other economic rights, such as the right to adequate housing.³ While upholding the right to adequate housing requires structural change, the degree of change needed is likely less than in the food system (and certainly there are fewer powerful opponents strongly interested in and pushing for an incompatible system). This would suggest that rights-based approaches can be more or less difficult to adopt in part in relation to how subversive they may be to the dominant narratives they must compete with, and who is invested in the status quo.

On the other hand, the failures of the right to food as a legal tool or human rights instrument could also be attributed to the fact that the right to food has largely failed to capture the collective imagination of communities. Although the right to food offers a powerful alternative to the current system—one that is centered on rights holders and places obligations on the state—it has for the most part not formed the basis of national campaigns for more equitable, just, and sustainable food systems nor shaped social movements' demands to governments. This confirms the observation by Claeys in her article of the lack of a political constituency for the right to food. The lack of widespread public support is also linked to weak implementation rates of the right to food, as governments are unlikely to adopt or protect legal rights that do not underpin the demands of the electorate.⁴

³ For example, the housing movement in Canada has taken a rights-based approach, whereas the food movement has not. Recently, the movement engaged in public interest litigation in an attempt to enforce the right to housing. Lawyers for the Applicant are currently seeking leave to appeal at the Supreme Court of Canada after a loss at the Ontario Court of Appeal. An important dissent by Justice Feldman at the Court of Appeal offers some hope that the *Charter* could protect a right to housing in Canada (*Tanudjaja v. Canada*, 2014).

⁴ In Malawi, Uganda, and Mozambique draft right to food laws have been pending before parliaments for years, without being adopted. These laws were drafted with the support of the FAO, government representatives and some

Success as a theoretical tool and uniting force

If the right to food as a legal doctrine has had limited success, what then have been the successes of the right to food? And in what form have these occurred? Two areas of success were highlighted in the discussions at Waterloo.

First, the right to food provides a useful theoretical framework for analyzing failures in the food system, particularly with respect to how policies, legal frameworks and practices of states, policy makers and global economic actors have impacted on the food security of the most marginalized. As observed by Narula, an extremely powerful component of the right to food as a normative framework is its insistence that actions are taken as a means of strengthening people's access and utilization of resources. This requires a focus on the most marginalized and vulnerable in society and on addressing systemic discrimination. Importantly, it also requires thinking not just about the provision of food to the poor, but examining who is hungry, why they are hungry and how the actions or inactions of more powerful forces impact their access to adequate food. This is a powerful analytical approach, in part because it departs from the conventional approach of providing so-called band-aid solutions or of addressing the symptoms of failed food systems (i.e. inadequate diets, malnutrition and hunger), and instead seeks to address the systemic reasons why people do not have adequate food to begin with.

Of course, there are well-recognized limits on the right to food as a theoretical framework. The human rights approach—which is historically a state-centric model—has limits both in terms of its scope and demands (as the state is both prime rights violator and guarantor). Although legal norms may be changing in this respect, the right to food (and other rights), as currently theorized, do not enforce obligations on third parties, such as transnational corporations, which have long been associated with rights violations. Further, as highlighted by Narula, the right to food lacks a direct relation to consumers, particularly those in wealthier states, failing to capture the impacts of their choices as consumers on their local food system and on populations in other countries or to address how they might take action. The right to food does not place any obligations on individuals. It also does not address the fact that choices—such as what to eat or how to fuel a car—can impact such issues as land use or mining policies in other countries. However, despite the limitations of the doctrine and the fact that the right to food as a normative and theoretical framework has largely been utilized only by progressive social activists and academics, it continues to be relevant, at a minimum for its subversive quality, as a basis for diagnosing the ills of the food system, and for shaping demands from states and international organizations.

Second, and perhaps more importantly, the right to food has served as a uniting force for a variety of CSOs, NGOs and social movements working in the areas of poverty, urban housing, sustainable agriculture, climate change, nutrition, poverty alleviation, gender equality and the

civil society, but social movements never supported (or instigated) them, and thus constituents placed little pressure on elected officials for their adoption (De Schutter, 2012).

rights of peasants, fisherfolk, and pastoralists. In her article, Claeys argues that the right to food and the human rights discourse more broadly has been effective at building alliances of social actors on the ground by providing useful diagnostic tools for what is wrong with the food system, what must be done and how to mobilize people. Claeys notes further that one of the key developments of the past decade is that right to food activists, recognizing the limits of the right to food approach, have reached out to work with other activists and social movement networks outside human rights circles.

The use of the right to food as a frame to build alliances is also now recognized by the food movement itself. This is evident, for example, in a statement from Laljil Desai from the World Alliance of Mobile and Indigenous Peoples and an active participant in the Civil Society Mechanism (CSM) at the CFS:

The right to adequate food and nutrition has served to connect seemingly disparate struggles and peoples in different parts of the world, turning what might otherwise be local issues into an interconnected global fight for human rights: by uniting fisherfolk in Uganda with pastoralists in India and “raising our voices for one another, we can put pressure on governments” and other actors to respect, protect and fulfill human rights (Callenius, Oenema, & Valente, 2014, p. 8).

At present there is a large and robust collection of NGOs, CSOs and social movements coordinating their efforts under the CSM of the CFS, as well as working together at other friendly international forums such as the UN Human Rights Council. Not only are these groups collaborating and coordinating, but they are also learning from one another through sharing experiences and strategies. While at times there have been internal political struggles, as would be expected with any effort to build advocacy coalitions, and the right to food itself is not always their major demand, these alliances have built solidarity over articulating their demands as rights (including demanding new rights as discussed below). In this way, the right to food has enabled new advocacy coalitions of global civil society (and states) and the articulation of political demands that go far beyond the right to food as a legal doctrine.

Reflections going forward: The possibility of new rights?

The discussions in Waterloo returned on multiple occasions to the possibility of elaborating new human rights. In recent years a number of advocacy coalitions and social movements have sought to create new rights related to the food system and food issues. At the domestic level, there have been efforts in Nicaragua, Mali, and Nepal to institutionalize food sovereignty—and to recognize a “right to food sovereignty”. At the international level, transnational peasants rights organizations such as La Via Campesina have been negotiating at the UN Human Rights Council

for a *Declaration on Rights of Peasants' and Other People Working in Rural Areas*, which encompasses a number of derivative rights related to food production such as the right to land and resources (seeds, water, etc.), as well as the right to set prices of agriculture goods on markets, and the right to access those markets. In her contribution to this volume, Claeys notes that these new rights are being pushed for and propelled by social movements, who are in turn controlling the process of their elaboration rather than the process being exclusively inter-state based. This marks an important break from past advocacy efforts at promoting the right to food, which have less frequently come from widespread grassroots support and mobilization.

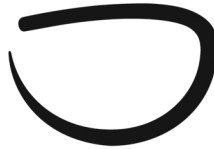
The promise of “human rights” to achieve social change is appealing because rights cannot be derogated from, are non-alienable and demand action from government. They can be powerful tools—both rhetorically and in their implementation when adopted in a state with a strong rule of law—to provide a means for forcing state action and remedying violations. The experience of rights-based claims to food however, indicate that not only is it challenging to compel states to recognize rights but even the adoption of rights into laws and constitutions does not often directly translate into results. Understanding the challenges faced in implementing and enforcing the right to food (and also emerging rights such as the rights to land, water, food sovereignty, etc.), and indeed the limits of a rights-based framework, will be important for future rights-based claims as well as for continued efforts towards recognizing the right to food. The discussion by participants of the workshop reflected optimism for a rights-based approach to producing new norms and altering the political discourse on the one hand while remaining skeptical over the prospects of existing and new rights changing the behavior of states, multilateral institutions, and corporations on the other.

Big questions remain open for activists, social movements and academics: Is the rights-based frame and the right to food itself still relevant to the pursuit of more equitable, sustainable and just food systems? To what degree should efforts be focused on the long-established right to food versus on the elaboration of new rights, such as the right to land or peasants' rights more broadly, and could efforts be made on both fronts in tandem? How and in what ways can movements for new rights learn from past efforts to pursue the right to food? And how can various rights holders continue to work together and build further solidarity in claiming the right to food, as well as a variety of new rights, in an effort to change the direction of the current food system?

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*Special Issue: Mapping the Global Food Landscape***Section III****Global food trade**Jennifer Clapp¹, Annette Aurélie Desmarais², and Matias E. Margulis³

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Few issues animate debate about the global food system as much as the role of international trade and, in particular, that of the World Trade Organization (WTO). Indeed, the WTO is a subject that polarizes debate among food scholars and activists. Some scholars see the WTO as imperfect but necessary to ensure a transparent and rule-based system to manage international food trade that is preferable to the exercise of unilateral raw power by governments. For others, the WTO represents the apex of neoliberal globalization and they regard it as an institution that has entrenched corporate interests and control over the food system at the expense of public interests. For many food activists, in particular, the WTO became a principal target for mass public protests; it also galvanized the transnational food sovereignty movement that has long sought to get the WTO “out of agriculture”.

The articles in this section address a series of recent controversies surrounding the WTO and consider new issues and political struggles over international food trade rules. Sophia Murphy, a long time observer of the WTO, argues that an understudied consequence of the 2008 Global Food Crisis is the breakdown of trust in the international trading system. In particular, Murphy illustrates that a breakdown in trust is particularly acute among low-income food deficit countries (LIFDCs). This group of countries, which are highly reliant on imported food to meet domestic food needs, experienced severe difficulties accessing food on international markets during the crisis. However, LIFDCs cannot simply relocalize food production and will continue to rely on traded food. Murphy considers how the interests of states vulnerable to food insecurity

may be better served by reform of current WTO rules. Gawain Kripke of Oxfam delves into the 2013 debacle at the WTO regarding India's national food stockholding policy. He shows that the efforts by the United States and other Northern states to thwart India's Right to Food legislation by claiming it was illegal under WTO rules illustrates the intensity of Northern resistance to innovative policies for food insecurity. Kripke also suggests this case reveals the hypocrisy of the Northern states that on the one hand claim to be champions of world food security while blocking India's effort to expand food entitlements to its hundreds of millions of food insecure citizens. Matias Margulis asks whether existing WTO rules are a potential pathway to regulate food-based agrofuels that are strongly linked to ecological and social problems and global food price volatility. Margulis argues that governments lack the political will to regulate food-based agrofuels at the global level; however, he points to a series of WTO rules and recent trade disputes that could be potentially used by food insecure governments and global civil society actors to curb, and potentially rollback, the expansion of agrofuels production.

Kim Burnett's synthesis paper takes a longer view of the debate over the WTO and agriculture. She contextualizes this debate, starting from Peter Rossett's intervention that "food is different", to other key criticisms of the WTO, such as its undemocratic decision-making process. However, Burnett also points to recent and pivotal changes to the political dynamics at the WTO. This includes the growing political assertiveness of food-insecure developing countries that are challenging power there and, in particular, the Group of Thirty-Three (G33) coalition that has been instrumental in carving out greater flexibility at the WTO to address food security concerns. This latter development, Burnett suggests, illustrates that power is far more mutable at the WTO than previously thought and therefore calls for a more nuanced analysis of the current dynamics of the food security and trade debate.



Section III

Global Food Trade

*Special Issue: Mapping the Global Food Landscape***Food fight: What the debate about food security means at the WTO**

Gawain Kripke

Policy Director, Oxfam America

Although still experiencing significant levels of hunger and malnutrition, India has recently taken historic measures to improve food security, namely through the expansion of domestic food assistance programs. Under the Obama Administration, the U.S. has prioritized improving global food security and promoting agriculture development within the foreign policy agenda. President Obama has helped to lead the international community in reviving funding and attention to these issues. Yet, the U.S. has opposed the Indian food security program in negotiations at the World Trade Organization (WTO) by rejecting India's proposals to shield the program from possible WTO enforcement. The disagreement came to a head in the WTO Ministerial Conference in Bali, Indonesia in December 2013 and more recently at a senior-level WTO meeting in July 2014 where negotiations collapsed. The conflict is emblematic of disjointed policy debates and development theories around food security, agriculture, and trade.

The story so far...

In July of 2013, India's cabinet finalized historic legislation to dramatically expand subsidized food distribution to the country's poor people. Although criticized by the political opposition, the measure expanded food entitlements in the country: 67 percent of the population will have a legal right to obtain subsidized food grains through the country's public food distribution system.

The legislation is a capstone of more than a decade of campaigning and advocacy by civil society and other actors to advance the cause of a “right to food” in India (see Claeys, this issue). The campaign was an outgrowth of a 2001 public-interest legal petition to the Supreme Court of India that sought to extend the constitutional “right to life” to include a “right to food” and made specific demands of the government (Birchfield & Corsi, 2010; Hassan, 2011; Right to Food Campaign, n.d.).

Campaigning to win national elections in 2009, the Indian Congress Party promised to enshrine the right to food in new national legislation. After the Congress Party was voted in, delivery of the campaign promise was delayed for years, in part due to political opposition. A high profile public debate emerged in India about food security, with Nobel Prize winning economist Amartya Sen stating that political opponents would be directly responsible for the death of children if the right-to-food policy was not put into place (TNN, 2013). However, critics of the plan argued it was an inefficient use of the national budget, that it would feed corruption, or that the program was a form of “vote buying.” Finally, after building political and public pressure, the government finalized the legislation in July 2013, passed it through the parliament, and it went into force the following September. The Indian Congress Party-led government was subsequently rejected in national elections held in Spring 2014, however, the current government led by Prime Minister Modi of the Bharatiya Janata Party has upheld the legislation.

India, of course, has strong cause to take action on the issue of food security and malnutrition. The country is home to approximately one-quarter of the world’s underfed people. India rates an “alarming” score on the Global Hunger Index, with close to 20 percent of the population undernourished and approximately 40 percent of children under 5 years old underweight (IFPRI, 2013).

Other countries have taken note of India’s new food security program and some have indicated interest in using it as a model to address hunger (Joshua, 2013). Indeed, the United Nations’ chief official in support of the human right to adequate food pointed to India’s law saying, “It can inspire many countries to do the same thing” (PTI, 2013; see also Joshua, 2013).

However, immediately after the Indian food security law was enacted, India came under scrutiny from the WTO. The organization’s Director General suggested, “India would soon be breaching their...commitments in the WTO” (Mehdudia, 2013). The trade policy problem India and other countries face is that their national food procurement processes—which set prices in advance of planting and purchase—can violate limits on agriculture subsidies that were agreed as part of WTO commitments. The crux of the issue is that if the government-set “administered price” deviates from the market price, then according to WTO rules there is an implicit subsidy to farmers, which is subject to WTO oversight and discipline.

India has repeatedly argued that its program does not violate the WTO limits on agricultural subsidies (ICTSD, 2014). However, recognizing that the new food security law might put India in violation of agriculture subsidy rules, the Indian government worked with an alliance of food importing and low-income countries (the Group of Thirty-Three [G33]) to

develop proposals that would help shield similar food security programs from WTO enforcement and possible sanctions (Palmer, 2013). India and the G33 submitted several versions of proposals to adjust existing WTO rules and create more flexibility in the name of national food security, while being mindful to keep the basic structure of rules that restrict subsidies under existing WTO provisions intact (Burnett & Murphy, 2014; De Schutter, 2011).

From the start, the U.S. set itself in opposition to India and the G33 proposal to create flexibility under WTO rules for food security programs. Highlighting U.S. disapproval, President Obama’s trade envoy stated, “Frankly, the very essence of this proposal is confusing and concerning” (Palmer, 2013).

Ironically, the U.S. was making a strong diplomatic show of concern against a rather small problem in trade terms. While India is at risk of violating WTO trade rules on subsidies, the truth is that India’s food procurement program was not very disruptive of trade. Recall that the reason to have WTO rules was to reduce and discipline international trade distortions. Yet, the prices Indian government paid for food commodities from local farmers to support the food security program were often lower than market prices. The primary reason for India and other countries to set such administered prices in advance is to give farmers some assurance when they plant, making this something tantamount to a forward or futures contract, which are not in widespread use in many developing countries. More importantly, the administered prices, even if they were above market prices, do not represent significant subsidies paid to farmers or distortionary premiums over market prices (Diaz-Bonilla, 2013).¹

Providing support for Indian farmers is not the problem, rather the way in which subsidies are calculated on government food procurement are, being in large part an artifact of WTO rules. This is, in part, because the current calculation of reference price to which the “administered price” is compared, has been set, somewhat arbitrarily, to the period covering 1986-88. No inflation adjustment has been made, so current prices paid to procure food crops are compared to nominal prices from nearly 30 years ago. Without adjustment for inflation, current nominal prices seem very high by comparison. This, under WTO rules, leads to a calculation that shows large price premiums are being paid to farmers, implying large subsidies. However, if procurement prices are compared to 1986-88 prices (or actual market prices) and adjusted for inflation, then they are not nearly as high and it follows that the implied subsidies are consequently smaller (Matthews, 2014).

Thus, India is technically vulnerable to a WTO trade dispute for breaching permissible agriculture subsidy limits, even though in reality its actual agricultural subsidies are much smaller than what official calculations under WTO rules show. A deeper irony was that the U.S. was objecting to India’s WTO proposal at the same time that the Obama Administration has made global food security and agriculture development a priority in the foreign affairs agenda. In June 2013, President Obama stated, “when I took office, we took a look at new ways that we could provide assistance and partner with countries, and we decided to make food security a

¹ Although countries are not explicitly named, this pattern is true in the example studies in Montemayor (2014, p. 11).

priority” (Obama, 2013). In his first inaugural address, Obama notably said, “To the people of poor nations, we pledge to work alongside you to make your farms flourish and let clean waters flow; to nourish starved bodies and feed hungry minds” (Obama, 2009).

To support this vision, the Obama Administration launched the “Feed the Future” initiative, largely led by the U.S. Agency for International Development (USAID) with a goal to sustainably reduce global hunger and poverty through improved agricultural productivity (Feed the Future, 2014). The initiative has been funded at approximately US\$1.1 billion annually, reflecting a substantially increased rate of spending over previous Administrations. Feed the Future is not active in India. However, the initiative has a mandate: “to improve the effectiveness of our contributions to global food security, the United States must improve coordination within our own government.... To coordinate and align U.S. activities in Washington and in the field” (Feed the Future, 2010, p. 6).

As the high-level WTO Ministerial conference in Bali approached in 2013, the debate in Geneva devolved into a negotiation around the idea of a “peace clause.” This idea was effectively a legal armistice that would protect India and other countries from the threat of legal challenge at the WTO while a “permanent solution” was negotiated. The U.S. was willing to offer a peace clause, but only under certain conditions, such as more transparency and reporting on the part of countries enjoying the protection. Yet talks on a peace clause nearly failed, with the Bali negotiations going into an extra day to achieve an agreement resolving the India-U.S. divide. More recently, in July 2014, at a meeting of senior representatives of WTO members, India withheld support for a finalized agreement on trade facilitation until it had assurances its food security programs would be protected from a WTO challenge. India’s strategy was effectively a veto, since the WTO operates on a consensus basis rather than voting, requiring all members to agree to new rules for them to be passed. Trade facilitation was not directly related to the issue about food security and agriculture subsidies, but India used its political leverage to insist on a resolution to its concerns and an extension of the “peace clause.” India’s actions have been heavily criticized and the head of the WTO described the situation as “the most serious crisis the WTO has ever faced” (Agence France-Presse, 2014).

Explaining the U.S.-India food fight

The Indian food security program can be described as having three important components: a) procurement of food commodities; b) stockholding of food; and, c) distribution of subsidized food to targeted populations. Note that the program is extremely complex as it is largely administered by states, with substantial variation in implementation policies and practices. Many of the components of the federal program have been in place for decades, however, it was only when India made it a national program that it inspired controversy at the WTO.

A closer look reveals that the primary issue being fought over at the WTO is the first component, the procurement of food by the government. Ironically, it is the second component,

the public stockholding of food and the management of the reserves, that probably has more significant trade impacts. India has made large public releases into the Indian market of rice and wheat from stocks, which can have the effect of depressing prices and displeasing food exporters (Oryza.com, 2014; Sen, 2014; TNN, 2014). For example, in 2012, India released two million tons of wheat from central stockpiles at subsidized prices to reduce overflowing stocks (ICTSD, 2012; PTI, 2012). This pattern is becoming more frequent as India has accumulated very large food reserves in recent years and continues to release stocks periodically. Critics point out that India has also now become a significant exporter of wheat and is the world's top exporter of rice, so management of food security reserves has significant trade implications. Nonetheless, WTO rules offer very little constraint on stockholding per se (Josling, 2014).

The consumer subsidy for reduced-rate distribution of foods is the most expensive element of the Indian food security program, and thus has the greatest so-called subsidy generating aspect (i.e., subsidized food prices). This subsidy makes up the largest single cost of the approximately US\$13 billion Public Distribution System (Hoda & Gulati, 2013). Under the new Food Security Law, the overall costs are projected to rise to more than US\$20 billion annually in order to reach two-thirds of India's 1.2 billion people. By comparison, the U.S. food stamps program costs nearly six times more at about US\$80 billion and only reaches approximately 45 million Americans in the form of food vouchers (CBPP, 2014). At the WTO, there is no challenge to these kinds of consumer-oriented subsidies for food assistance.

Whatever the merits of the debate at the WTO, it has the optics of the U.S. opposing and obstructing India's pursuit of domestic food security. This is, on its face, quite a contradiction with President Obama's statements around cooperating internationally for improved agriculture and food security. It also highlights inconsistency between different branches of government, with USAID pursuing one course, but with the U.S. Trade Representative (USTR) negotiating another.

More generally, the dispute is a clear example of the contradictions between food security and international trade rules, something that many civil society groups have highlighted for years.² In general, the criticism of trade rules (enforced by international trade agreements such as those under the WTO) is that they constrain governments' policy options and narrow the available modalities for governments to undertake food security programs. Advocates of free trade have long dismissed this argument. However, with India having taken an historic step towards food security and fulfilling the human right to food, it now clearly faces opposition and potential challenges at the WTO.

In terms of specific consequences from the food fight, the jeopardy that India and other developing countries face is disciplinary enforcement (i.e. economic sanctions and being forced to dismantle the program) for violating WTO agreements limiting agriculture subsidies. This is a highly technical issue that has important long-term implications because such programs are seen to diverge from the underlying purpose of the agreements, which is to liberalize agricultural

² Note: the author works for a non-profit organization, Oxfam America, and is generally writing from a civil society perspective.

trade and reduce distortion of markets by governments. Yet India's subsidies, as defined by the WTO, do not necessarily reflect actual distortionary market interventions. And the impact on real international food trade is even more removed.

Disconnects in U.S. policy

As noted above, there is a disconnect in U.S. policy in support of food security, on the one hand, and in opposition to India's expanding food security program at the WTO. There is also a strange hypocrisy on the part of the U.S. (and also the European Union [EU]) in criticizing India for pursuing policies that have historically been (and indeed still are) part of U.S. and European agricultural policy.

The U.S., for example, continues to provide government-set minimum price guarantees for many commodities, most recently reauthorized as part of the 2014 Farm Bill enacted by Congress and signed into law by President Obama. As recently as the 1980s, the US government held large stocks of surplus commodities, which it sought to dispose of through exports or foreign aid. Of course, the U.S. government also has an extensive food assistance program, through both commodity distribution and cash allocations (vouchers). Under WTO rules, the U.S. is permitted much larger farm subsidies than is India, even though agriculture in the U.S. is a much smaller fraction of economic activity and employment. The unfairness is glaring.

Another disconnect is to consider whether India's Food Security program, in particular the Public Distribution System, actually improves food security. This is less clear and continues to be debated. First, it is widely agreed to be highly inefficient with massive food wastage through poor storage as well as misdirection through corruption, political capture, and low technical capacity. According to an internal government report, "leakage" of grain could be as high as 58 percent overall and even higher in some states (World Bank, 2011, p. xiii). The resource loss is monstrous and tragic.

At the same time, even when it does work, it is clear the Public Distribution System has not done enough to eliminate hunger, given persistent high levels. It may be the case that the program is badly designed to address the most important parts of food insecurity, such as child stunting. Subsidized cereals provide an important consumer income transfer by effectively making food cheaper. However, cereals themselves are often not important in reducing malnutrition, either because they offer the wrong nutritional components, or because poor consumers already get enough cereals. More targeted, nutritionally diverse, and more nutrition-oriented interventions might have much higher impacts than the current system (the Public Distribution System also offers some pulses and other foods).

India's Public Distribution System clearly has problems, yet there is political will to do more. This political will was demonstrated with the passage of the Food Security legislation in 2013, and, apparently, by the continued support for the program by the Modi government. So, the question is, can the pressure from the WTO negotiations be converted into pressure to

improve the program on its own terms, in favor of food security and program efficiency? And can the U.S., with its newfound commitment to global agriculture development and food security, find a way to channel its influence in this direction rather than in an obstructionist, adversarial way?

One important conceptual disconnect is between paradigms for food security (see Wise, this issue). One is the neoliberal paradigm, which posits increased economic liberalization (especially trade liberalization) as a mechanism for improved food security. This paradigm envisions improved food security, first through increased trade openness, which permits the movement of food from food surplus regions to food deficit regions. Food is thereby provided more consistently with prices mediated by geographic risk pooling. Second, it posits that food security can be improved through higher economic growth that will result from increased economic liberalization, which in turn will raise incomes and food access.

An alternative paradigm for food security relies on more affirmative action by governments to uphold a human right to food (see Narula, this issue). A range of policy measures support this paradigm, including: public subsidy for food access, targeted support for low-resource farmers to increase production and improve livelihoods, and public stockholding to mediate prices. A strong state role and managed trade flows help support this approach.

These paradigms are not necessarily in contradiction. However, they remain contentious in certain fora, like the WTO.

Questions for further research and analysis:

1. Can the WTO facilitate substantive improvements or supports to the Indian food security program? Could the jeopardy posed by WTO rules be converted into an opportunity to support the goal of improved nutrition and food security for hundreds of millions of poor Indians?
2. Can the Obama Administration's food security goals and its trade negotiation position be reconciled and rationalized? What steps could bring them into alignment?
3. While India is, by itself, a major factor in global food security because of its sheer number of food insecure citizens, there is a question about how important or relevant India's food security program is or could be to other countries. How replicable is India's program? Are there conditions in which it would be a good or bad model?

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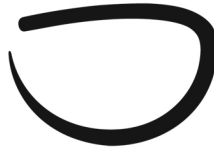
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Section III

Global Food Trade

Special Issue: Mapping the Global Food Landscape

Food security and international trade: Risk, trust and rules

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The multilateral trade system today shapes the economy of almost every country of the world. The World Trade Organization (WTO) now has 160 members, and even the non-members must deal with the rules the WTO has established when they trade. The system is ubiquitous yet faces serious challenges. One of these is a challenge that in various guises and for different reasons has been present since it was instituted in 1995: food security. The most recent iteration of the challenge is a fight primarily between the U.S. and India over whether WTO rules should be reformed to accommodate the programmes the Indian government has introduced with its 2013 National Food Security Act (Kripke, this issue). The Indian government is buying food at administered prices from farmers to store and then later distribute through a public distribution system. This fight is important, as a simple scan of the specialist trade press shows. It has implications for all member states seeking to curb domestic food insecurity.

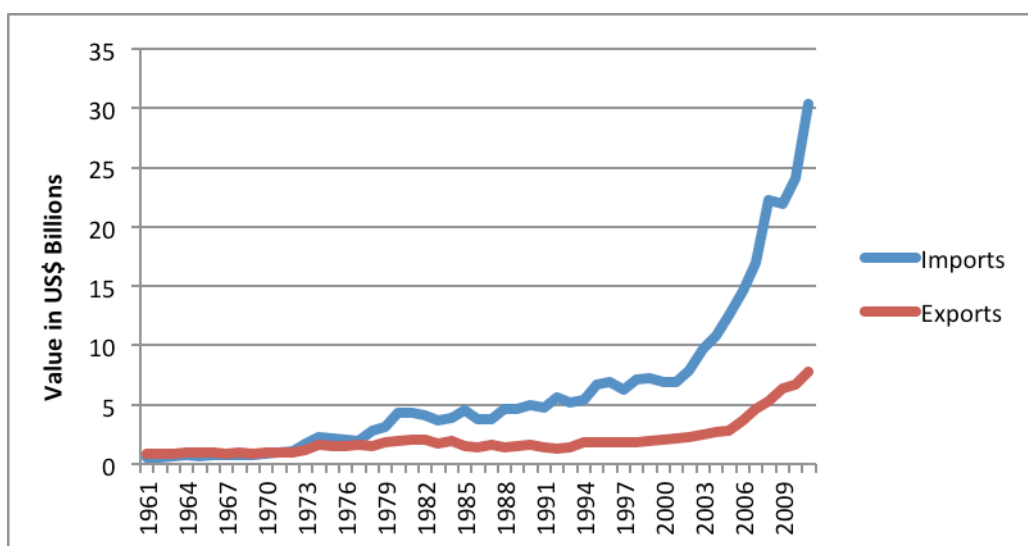
But there are other challenges to the trade system when it comes to food security that merit serious attention. Perhaps the most important of them is somewhat counterintuitive: the loss of confidence by low-income food deficit country governments (LIFDCs) that international trade should play a central role in their food security strategies as a result of the 2007-2008 global food-price crisis.

Why counterintuitive? Because for several decades, many development economists have criticized trade—or rather, and more precisely, the trade liberalization programmes pursued under structural adjustment programs and its successors—for their failure to take into account the needs and priorities of developing countries (Chang, 2009; Helleiner, 1992; Rodrik, 2007; Stiglitz & Charlton, 2005). So it is arguably a good thing for LIFDCs to see in such stark relief how poorly the international trade rules serve their needs. And it is a good thing, too, that these countries are looking to policies other than food imports to meet their food security objectives now that their confidence in international markets has been shaken (Wise, this issue). In this article I argue that rethinking how LIFDCs work with international markets in their food security strategies is overdue and welcome. At the same time, trade remains an important tool for food security, so the breakdown in trust is itself a problem to be resolved.

The global context

Developing countries' dependence on food imports has been increasing for decades. Figure 1 below shows just how dramatic the increase in LIFDCs' dependency on food imports has been over the past 15 years in particular. Note that the increase is measured here in the cost to developing countries in U.S. dollars; if measured by volume, the increase would be somewhat less dramatic. The trend, however, was already on an upward climb.

Figure 1: Agricultural Trade Balance of the Least Developed Countries, 1961-2011¹



¹ Generated from FAOSTAT data.

The World Bank, and many agricultural economists, have long promoted the idea of open international trade as a failsafe against domestic harvest failures, as a source of cheap food, and as way to replace “inefficient” domestic production with much more “efficient” (albeit often subsidized) production originating in industrial agricultural systems.² These economists and development planners promised LIFDCs that sourcing cheap food from outside would free productive resources for higher value economic sectors. Those in favour of free trade also argued that it would provide consumers with more choices (i.e., more diversity of food), especially for those consumers whose income gave them greater purchasing power, and where rising incomes in general were sufficient to increase the choices available to all in the market place.

It could be said the policy advisors advocating trade liberalization were promising to address all four “pillars” of food security, as defined by the Food and Agriculture Organization (FAO): supply (more food and more variety of foods); access (cheaper for consumers because the competitive pool is widened); nutrition (because a greater diversity of foods is available through trade); and, stability (because food production globally is more stable than it is in any one country or region).

The practice did not live up to the promise. Environmental costs, such as pollution, natural resource exhaustion and biodiversity loss, were not counted in the analysis and models (Friedmann, this issue); nor were cultural food preferences (Clapp & Dauvergne, 2011). For countries that eat traditional plant varieties that are susceptible to displacement by cheaper imports, free trade has reduced both biological and dietary diversity, even within species (see Lenzen et al., 2012, and for a Mexican case study of maize, see Fernández, Wise, & Garvey, 2012). The free trade advocates ignored the role agriculture had played historically in stimulating broadly based economic growth (Chang, 2011; Dorward, 2013; Lipton, 1993; Mellor, 1995).

International markets are not the sum of all production globally. Rather, international markets are often residual, making them inherently unstable, except for those few crops where international trade is the norm. There are no international markets for a number of foods; among food staples, trade is heavily dominated by wheat and maize, with only a limited market for rice. Many food crops are hardly traded at all. Instead, much of the trade in the commonly traded grains is for animal feed. Markets tend to offer the best quality and lowest prices to the largest and richest buyers. Access depends on consumer purchasing power and that which is for sale in an international market is not automatically available to all. Using a deregulated market as the distribution mechanism means relative purchasing power dictates who has access to what food, something that should create unease in a global context where rates of inequality are increasing around the world, especially within countries but also across regions (Fuentes-Nieva & Galasso, 2014).

² Note efficiency is a term that has, rightly, been critically examined by many scholars, including Princen (2005). Efficiency ignores many important externalities that generate significant costs that the market does not account for.

Rising dependence

For developing countries as a whole, two distinct trends underlie their collective shift from net food exporters to net food importers. One trend is linked to a dramatic decrease in poverty in some parts of the world, especially in some parts of Asia and Latin America. Rising incomes in these countries have changed the volume and the composition of demand, in particular increasing the demand for meat (and linked to that, for animal feed) as well as for ingredients used in processed food, such as vegetable oils (Valdés & Foster, 2012). The second trend is the increase in the import of staple food grains in some of the world's poorest countries. That trend dates back to the late 1970s, but has accelerated rapidly in recent years (see Figure 1) (Rakotoarisoa, Iafrate, Paschali, & Elbehri, 2011).

Both trends are crucially important to understanding what is happening with regard to world food security. Both are problematic. The rising middle class dominates the numbers and the news. That demand masks deep inequalities within and among countries and is exacerbating unsustainable use of the planet's natural resource base, begging questions about how long the trend can persist and who will adjust their consumption and how, given the limits of the already stressed natural resource base (UNEP, 2012; Weis, this issue). There are also troubling questions linked to the dietary changes associated with this increased (feed and processed food) trade and to the rapid and dramatic increase in overweight and obese populations in developing countries (Clark, Hawkes, Murphy, Hansen-Kuhn, & Wallinga, 2012; Hawkes, Blouin, Henson, Drager, & Dubé, 2009).

But the second trend also deserves attention. There is a significant gap between the high importance of imports in LIFDCs' food supply (and thus their importance for consumer prices), and LIFDC governments' purchasing power in international markets, which is modest at best. Furthermore, and crucially, most LIFDCs still depend on agriculture to provide the lion's share of employment and to be an engine for economic activity in other sectors. Reliance on food imports as a strategy to keep food affordable is in direct tension with the need to raise productivity and to support plentiful, well-remunerated employment in agriculture.

The food price crisis and the loss of trust

These tensions came to a head when the food price crisis erupted in 2007-2008. There is widespread consensus—evident in G20 statements, UN reports and academic analysis—that the period of structural food surpluses and cheap food is at an end for now. Continuing population growth, concerns about the unsustainable nature of some agricultural production and climate change, are all factors in this analysis. The FAO predicts that price volatility will continue.

In the 1960s and 1970s, developing countries' food import bills varied mostly because domestic production was unstable, changing the volume of imports required year-on-year.

During that period, international prices were relatively stable and had little effect on food import bills. This has changed. By 2012, Konandreas calculated that most (and in some cases all) of the total increase of developing countries' food import bills was due to international prices (cited in Valdés & Foster, 2012, p. 13).

Dependence on volatile and unfair commodity markets is not new; it has been part of developing countries' reality for decades, pre-dating national independence. But the 2007-08 global food-price crisis put a new twist on the traditional commodity problem. Where the historic problem was the gradual, secular decline in primary commodity prices relative to other goods, the recent rise in commodity prices should have offered hope for countries that depend on commodity exports for their foreign exchange earnings, as many LIFDCs do. And, indeed, those revenues did increase. Farmers in LIFDCs, however, did not necessarily benefit from higher prices. That depended on the structure of the markets into which they sell, and how hard they were hit by the simultaneous increase in input prices (de Janvry & Sadoulet, 2009).

The newer commodity problem is not the value of exports, though that still matters, but the cost of food imports, which are now a significant burden on LIFDC budgets. The international structures that set the path for greater dependency on staple food imports were reinforced by WTO rules, codified in the 1995 Agreement on Agriculture (AoA). The rules were meant to limit the extent of dumping on international markets through disciplines on agricultural subsidies. The rules were negotiated in the late 1980s and early 1990s when structural oversupply in international food markets was the norm (Margulis, 2014). The rules were meant to raise prices in international markets, and the Marrakech Ministerial Decision, passed in 1994 to accompany the AoA, was precisely to reassure LIFDCs that there would be financing to help pay for exports should prices rise (as was widely predicted). But the Marrakesh Ministerial Decision was never implemented and after a brief price spike in 1996, international food commodity prices returned to their long-standing downward trend, a trend that persisted until early in the 2000s (Clapp & Cohen, 2009). The AoA focused on increasing market access through reducing tariffs and non-tariff barriers to trade and limiting certain kinds of subsidies, such as export subsidies and domestic support that increased with the volume of farmers' production. There were no rules to ensure exporters did not limit exports when supplies were low, a failing that deepened the 2007-08 price crisis (Sharma, 2011).

The AoA's narrow focus on how to manage surplus proved a liability when prices moved up and became more volatile in 2007-08 and after. The structures that many governments had put in place to manage scarcity had mostly been dismantled. Many of the state grain enterprises had gone bankrupt with the steady erosion of agricultural commodity prices during the 1980s and 1990s; others were undermined by poor management (Daviron & Douillet, 2013; Murphy, 2009). This failure to anticipate a period of high and volatile prices was to prove very damaging to the trust governments had in international trade as a core guarantor of food security.

LIFDCs have lost confidence in international trade for (at least) two reasons: 1) their expectations were too high, in part because of the promises made by economic models and the 'Washington consensus' approach to development; and, 2) governments' understanding of what

the threats and opportunities for food security are have shifted in the aftermath of the 2007-08 global food-price crisis. Developing-country governments have revised their food and trade policies and are looking again at approaches they had dismantled under economic structural adjustment programmes during the 1980s and 1990s (Galtier & Vindel, 2013; Kripke, this issue).

The AoA was never really about food security. Achieving food security as a by-product of negotiations to reduce export subsidies and price floors in Europe and the U.S., while increasing market share for members of the Cairns Group,³ was always going to be a long shot.

Yet the present loss of trust is also dangerous. While WTO rules have over time exacerbated LIFDCs' growing dependence on food imports (Clapp, 2014; De Schutter, 2011), there is not really a “no trade” alternative. Without ignoring the very real disagreements over what the terms of trade should be and how to give priority to food security, trade is intimately, extensively and near-universally integrated into food systems around the world. Traded commodities provide livelihoods not just for the world's richest farmers, but also many of the poorest, and even poorer landless rural workers.

Trade rules pose a collective problem, one that requires a collective solution. Yet to restore confidence in international food trade will require new rules of some form. This is something WTO members have shown little willingness to discuss.

What now? Research questions ahead

Many civil society organizations (CSOs) and social movements welcome the current paralysis in WTO agricultural trade negotiations. Many of these groups have been critical of the AoA since it was adopted in 1994. They want to eradicate the WTO, not reform trade rules.

Developing country governments, on the whole, disagree with these CSOs. They want to pass the WTO Doha Agenda in some form though they dislike a number of the proposals. They say they want agreement on the Doha Agenda before considering any new proposals, on the grounds this will prevent some of the richer WTO members from cherry-picking the issues they deem “doable” (or too important to their export sectors to drop), and ignoring the rest, working on a plurilateral basis if necessary. This is in effect what the Trans-Pacific Partnership and the Trans-Atlantic Trade and Investment Partnership are about. As a result, the WTO is at an impasse.

Could governments consider, instead, a “lessons learned and gaps identified” exercise to establish a new basis for political agreement? This could revisit, in effect, the built-in review called for in the AoA text, and successfully implemented as the Analysis and Information Exchange in the first years after the AoA was adopted (between 1995 and 1999). Trade in agricultural commodities has changed significantly in the last decade. Researchers should

³ The Cairns Group is 20 agricultural exporting countries, including Australia, Brazil, Argentina, Indonesia and South Africa.

document these changes (see, for example, Daviron & Douillet, 2013) and consider their implications. In addition, researchers could consider:

- 1) Redefining food security as it is used in trade debates. Food security, particularly (but not only) in trade circles, is defined as the availability of a certain minimum number of calories per person, calculated at the national level. This shorthand has significant drawbacks. It ignores distribution and unequal purchasing power. It ignores intra-household and inter-class dynamics. It misses entirely any understanding of the need for a varied diet to meet basic nutritional needs, which in turn ensures proper physical and mental development. The international system has spent ten important years expanding and refining our understanding of food security. How is the mounting evidence of unsustainable resource use in the production of food in many parts of the world factored into trade rules? What of the evidence from research on nutrition and the importance of trace elements in human development? What contribution can the Right to Food make, following the pioneering work of former Special Rapporteur on the Right to Food, Olivier de Schutter, and his team?
- 2) Revisiting the claims made about what trade can and cannot do for food security, and under what conditions. Food security challenges are many, complex and varied. The AoA distinguishes between developed, developing and least-developed countries (LDCs) but the categorization is too crude. Meanwhile, the 2008 draft negotiating text for the Doha Agenda created a chaotic mix of sub-groups (land-locked; Africa Group; small vulnerable economies, etc), each trying to carve out policy space for themselves. Might it be better to support flexible and nationally appropriate trade rules by using thresholds instead, linked to the size of market a particular country has in a particular commodity? How might this look in practice? At the same time, national policy space has to have limits in an interdependent world. What should those limits be? How might a system of trade rules manage to both respect varying levels of policy space while remaining workable?

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Section III

Global Food Trade

*Special Issue: Mapping the Global Food Landscape***Regulating food-based agrofuels: The prospects and challenges of international trade rules**

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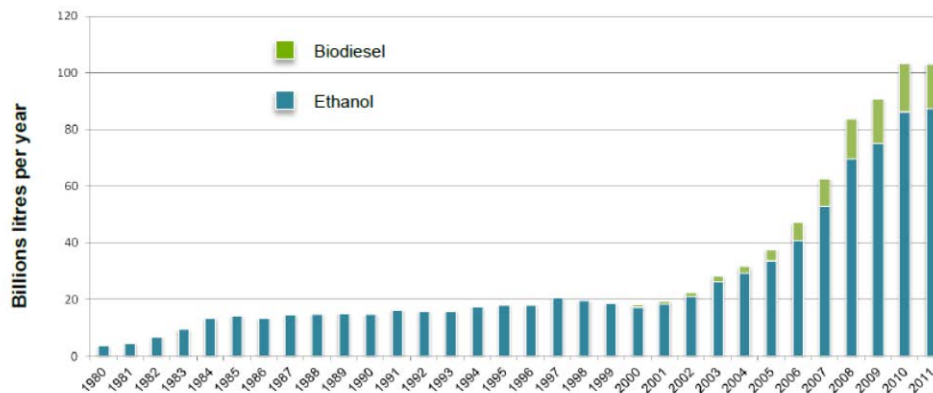
This article considers the potential for strategic and selective use of World Trade Organization (WTO) rules to regulate, and potentially curb, the expansion of food-based agrofuels. Since 2008, a global agrofuel complex has emerged that is characterized by government-led mandates and investment for food-based agrofuel production and trade. The majority of world agrofuel production utilizes basic foodstuffs—sugar, corn/maize, soy and palm oil—thus generating competition between food/feed and fuel end-uses. This competition is strongly linked to food price volatility, food insecurity and land grabbing on a global-scale. Food-based agrofuel production is projected to increase significantly over the next decade, with international trade of agrofuels growing in tandem due to rising global demand. Despite well-documented social and ecological consequences associated with food-based agrofuels, producing and consuming states demonstrate a lack of political will to curb future agrofuel expansion and, in particular, continue to resist demands by global civil society and other social groups for global agrofuels regulation. In a global political economic context best characterized by a global governance gap for agrofuels, I consider the prospects and challenges of strategic and selective application of WTO rules to regulate food-based agrofuels. Also considered is the legitimacy and efficacy of the WTO to fill the existing global governance gap for agrofuels, and the potential of alternative global governance institutions to play this role.

The rise of the global food-based agrofuels complex

In the past decade, food-based agrofuels have rapidly come to form a new and significant part of the global food system (Borras, McMichael, & Scoones, 2010). A distinguishing feature of the incipient global agrofuels complex is that its emergence is a direct result of government-led policies to support the production of alternative energy. Food-based agrofuels have quickly come to represent a growing and significant proportion of world agricultural production, increasing six fold between 2002 and 2012 (OECD-FAO, 2012; see Table 1). Agrofuels are increasingly intertwined with global food trade, as a number of major consuming countries are importing food stocks as inputs to meet demand for “green” transport fuels.

An analytical distinction is made in this article between food-based agrofuels and other types of agrofuels. Food-based agrofuels (also referred to as “first-generation” agrofuels) are produced with the input of staple food products such as maize and sugarcane, which are primarily used for bioethanol, and soy, palm, and other vegetable oils used for biodiesel. Non-food based agrofuels involve a greater variety of plants and sources of cellulose (i.e., algae, lichens, etc.) and waste from traditional agricultural crops such as corn husks and stalks. Efforts to expand non-food based agrofuels on an industrial scale have been unsuccessful due to the lower production and distribution costs of food-based agrofuels (Carrquiry, Du, & Timilsina, 2011). At present food-based agrofuels dominate global production and account for 80 percent and 75 percent of world bioethanol and biodiesel production, respectively (OECD-FAO, 2012, p. 84-86).

Table 1: Agrofuel production, 1980-2011



Source: HLPE (2012)

As a result, global agrofuels production generates a food (and feed) vs. fuel scenario where an increasing proportion of world agricultural production is destined for the energy sector. This development has major consequences; rising and volatile food prices and tighter world grain trade and markets are making accessibility of basic food staples a preeminent concern for low-

income, food-importing developing countries (see Murphy, this issue). Indeed, agrofuels have heightened geopolitical tensions on the competing goals of bio-energy and food security with a new fault line drawn between food exporting and food-importing states (Margulis, 2014).

Despite repeated promises of a technological revolution for sustainable non-food agrofuels on the horizon, projections point to the opposite. World agrofuel production is expected to increase by 50 percent between 2014 and 2023 and food-based agrofuels will continue to be the main inputs for production with 12, 28 and 14 percent of world coarse grains, sugar cane, and vegetable oil production, respectively, feeding global energy demand (OECD-FAO, 2012).

How did we get here? Recall that the emergence of a global agrofuel complex was advanced by Northern policymakers promoting the powerful discourse of a sustainable energy sector and energy independence (i.e., from Middle East crude oil). Also influential was private sector support driven by projected rents from “green” subsidies and profit opportunities associated with demand for new technologies, services and investment in the agrifood and energy sectors (Borras et al., 2010).

The case for food-based agrofuels has come under greater scrutiny in recent years. Scientific research has demonstrated that food-based agrofuels, which are produced through energy intensive industrial agriculture, generate a significant carbon footprint and are far less green than initially touted (Hammond & Seth, 2013). While recognizing that the term “sustainable” is contested, food-based agrofuels are land, water and energy intensive and reproduce environmental consequences associated with mono-crop agriculture (HLPE, 2013). The idea of energy independence is illusory with nearly all agrofuel consuming countries dependent on the importation of large volumes of agrofuel feedstocks; indeed, this aspect is driving significant future growth in agrofuels trade (OECD-FAO, 2012). Agrofuels trade is now part and parcel of globally integrated production chains and trade networks (Dauvergne & Neville, 2009). For example, Brazil and the U.S. trade significant amounts of feedstocks and refined food-based agrofuels with one another. More recently, other middle-income developing countries (e.g., Pakistan, Indonesia and Costa Rica) are restructuring agricultural systems for food-based agrofuels exports often in the name of rural economic “development” (Dufey, 2006; McMichael, 2010). As a result of these trends, agrofuels are producing new international relations of energy dependence as state-driven mandates rub up against both natural and market-based constraints on domestic production.

The global governance gap for food-based agrofuels

A key challenge is resolving the global governance gap for food-based agrofuels. Despite comprehensive evidence that links food-based agrofuels with food insecurity, land grabbing and ecological degradation, there are no yet agreed upon international norms and rules to regulate food-based biofuels (Lima & Gupta, 2013; see Hunsberger, this issue). That is not to say there

have not been acknowledgements by states of the need for international rules. In the 2008 Leaders Statement on Global Food Security, the Group of Eight (G8) called for international cooperation to “ensure the compatibility of policies for the sustainable production and use of biofuels with food security and accelerate development and commercialization of sustainable second-generation biofuels from non-food plant materials and inedible biomass; in this regard, we will work together with other relevant stakeholders to develop science-based benchmarks and indicators for biofuel production and use” (G8, 2008). Yet the G8’s own call for evidence-based standards to develop global regulation faltered. The reasons for this are not fully clear, however it is likely that Northern lobbying in favour of agrofuel mandates played a role. Also, disagreement among the G8 and emerging powers such as Brazil (a major agrofuel exporter and consumer) and China (a major agrofuel importer and consumer) over the necessity and desirability of international regulation of agrofuels diminished momentum for action.

Other global efforts to regulate and/or rollback food-based agrofuels have been unsuccessful. For example, in 2007 the former United Nations Special Rapporteur on the right to food, Jean Ziegler, called for a five-year moratorium on food-based agrofuels until it could be demonstrated they did not pose a threat to world food supplies. This proposal had no international take-up. In 2008, the U.K. parliament recommended a moratorium on food-based agro-fuels without success. More recently, the European Union (EU) proposed to reform its agrofuels mandate in response to concerns its policies were driving deforestation in developing countries. Under consideration is a proposal to cap food-based agrofuels to a maximum of 7 percent of all energy used for transport fuel, however, there is uncertainty about whether a sufficient number of EU members will vote in support of this reform.

Regulating agrofuels at the international level: The promise and pitfalls of trade rules

The current situation appears to be one of an absence of national and international political will to address the governance gap for food-based agrofuels. This is a significant problem because whereas food-based agrofuels are driven by domestic (i.e., national) policy, they constitute a global scale challenge due to the complex, cross-border linkages of production and consumption with food security and the environment (German, Schoneveld, & Pacheco, 2007).

Global policy debates vary on the best way forward to regulate agrofuels. Northern states and industry argue that multistakeholder regimes (Bailis & Baka, 2011), such as the roundtables for responsible soy and palm oil that allow for third-party certification of environmental and social standards (Ponte, 2014), are promising. However, the literature questions the efficacy of these hybrid approaches. Hunsberger, Bolwig, Corbera, & Creutzig (2014) note that such schemes insufficiently address governance concerns about the social and ecological impacts of agrofuels. In addition, these schemes lack binding enforcement and have a mixed record of success (Fortin & Richardson, 2013; Mol, 2010). More importantly, such self-governing regimes do not fundamentally challenge the logic of national food-based agrofuel policies but, instead,

seek to increase their “sustainability” by providing producers and traders with credibility and access to markets. The limitations of certification in this context are illustrated by private certifiers targeting producers, and not the national mandates that undergird the emerging global agrofuels complex.

Another approach would be establishing new supranational and enforceable regulation targeted at states’ agrofuel mandates. This is arguably a highly desirable course of action to address the global governance gap. However, the failed calls for a moratorium, and the lack of G8 follow through, suggests that unfavourable conditions remain for new enforceable international rules negotiated by states. Therefore, a pragmatic alternative may be to consider if and how existing international rules could be applied strategically and/or selectively to regulate food-based agrofuels.

I now turn to consider the strategic and selective use of existing WTO trade rules to regulate food-based agrofuels. To some readers, the idea of using WTO rules to regulate food-based agrofuels will be highly controversial. This idea will be ferociously rejected by both free trade ideologues that balk at the idea of “misusing” WTO rules and by food sovereigntists for whom the WTO is anathema (see Burnett & Murphy, 2014; Desmarais, 2007). However, given the global governance gap for food-based agrofuels and the desirability for enforceable regulation in the here and now, there are several reasons for a serious debate about the promise and pitfalls of WTO rules. I do not claim that WTO rules are “the solution” to regulating food-based agrofuels, but as I will illustrate below, they provide a pre-existing set of enforceable rules that could be used strategically and selectively to curb, and potentially roll-back, food-based agrofuels.

Why consider WTO trade rules for regulating food-based agrofuels? There are several reasons for this. First, it is firmly established that WTO rules already apply to the production, trade and use of food-based agrofuels. Many (if not most) of the policy instruments that make national agrofuel mandates possible—direct subsidies, taxes, state financing, local-content provisions, public research and development, tariffs, and so on—are subject to existing WTO trade rules (Harmer, 2009). This means that, in practice, the WTO already has the governing authority, without the need of additional regulatory powers, to regulate agrofuels. No other set of existing international rules can be applied in an equally direct fashion to food-based agrofuels.

Second, food-based agrofuels are already an issue of significant political discord at the WTO. Many states have launched, resolved, and/or are initiating trade disputes over agrofuels at the WTO’s dispute settlement system (i.e., its international trade court). Prominent trade disputes include U.S.-Brazil on ethanol (2008), U.S.-Costa Rica on dehydrated ethanol (2013), European Union (EU)-U.S. on anti-dumping of ethanol (2012), and Argentina-EU on imports of biodiesel (2013). In other words, efforts to strategically and selectively use international trade rules to curb the production and trade of agrofuels is already taking place at the WTO. In particular, the flurry of agrofuels trade disputes is highly significant to debates about regulating agrofuels because these cases are making the WTO a source of: 1) globally-enforced changes to states’ agrofuel mandates and policies; and, 2) international legal jurisprudence for agrofuels. As a result, the

applicability of its trade rules and its enforceable decisions has already de facto provided global-scale regulatory authority for agrofuels to the WTO. In other words, the WTO is already filling the global governance gap for food-based agrofuels. Whether particular outcomes of WTO decisions on food-based agrofuels are desirable is up for debate and merits further discussion (for example, see Hunsberger in this issue on the WTO chilling effect on demand for labour and social standards in agrofuels supply chains). However, the larger point for the purpose of this article is that supranational regulation of agrofuels is currently taking place and this is occurring at the WTO.

Third, no other international treaty or institution has the capacity and international legal authority to regulate national agrofuel policies. I rule out soft law approaches in general. Although the need for normative guidance remains crucial, soft law is unenforceable and does little to address the problems of agrofuels right now. It is well known that United Nations (UN) environmental treaties lack enforceability, and have not produced rules as specific as the WTO's in relation food-based agrofuels. Moreover, it is unclear if the UN climate change regime is an ideal place to address agrofuels-related concerns given the debate as to whether schemes such as the Reducing Emissions from Deforestation and Forest Degradation (REDD), which provides developing countries financial incentives to conserve forests, may be legitimating the expansion of palm oil plantations for agrofuel production at the expense of biodiversity. The UN Committee on World Food Security (CFS) has successfully demonstrated its capacity to advance policy debate and rule-making for global food-security governance, including debates on agrofuels, and enjoys a high level of legitimacy due to its multistakeholder representation (see McKeon and Duncan, this issue). However, simply put, the CFS does not have the regulatory powers to enforce international law and target state-mandated agrofuels. Other global institutions such as the International Energy Agency (IEA) reflect the preferences of a small group of global North countries, most of which are producers and consumers of food-based agrofuels and are, therefore, unlikely to provide satisfactory solutions.

WTO trade law is a highly technical subject, and given the brevity of this article, I will only sketch out some ways in which WTO trade rules could be strategically and selectively used to regulate food-based agrofuels.

One point of entry is the WTO's Agreement on Agriculture that limits the total value of subsidies and other support measures states can provide to their agricultural sector. At present, subsidies for food-based agrofuels have not been counted at the WTO as part of states' agricultural support spending. Yet the production and economic viability of food-based agrofuels are made possible to a large extent by government subsidies and other forms of what, under WTO rules, plausibly qualify as state-funded "agricultural support". WTO rules enforce strict limits on how much states can spend, and a shift to including agrofuel-related spending into the accounting of total agricultural spending at the WTO would find agrofuel producing states in a position of reporting much higher levels of agricultural support.

Such accounting could have two interrelated effects. First, given that the main agrofuel producing states regularly spend at high levels of allowable support, accounting for food-based agrofuels spending may result in these countries surpassing their WTO spending limits and thus be in violation of international law, making them vulnerable to trade disputes and costly retaliation (i.e., sanctions). This is indeed a plausible scenario because WTO rules work in a manner to limit, in particular, how much subsidy and other forms of agricultural support a single crop can receive (this is known as “crop-specific support”). Given that food-based agrofuels essentially rely on roughly three crops for all production it may well be the case that many agrofuel-producing states would find themselves close to or offside WTO rules on a crop-specific basis of accounting. This would be a high-risk scenario for states and would put them under international pressure to lower levels of support to food-based agrofuels.

Second, accounting for food-based agrofuels as a form of support at the WTO would lead to greater internal political discord within producing states. Government agricultural spending, due to the binding WTO limits, is a zero-sum game played among competing domestic interest groups and political actors. If accounting for agrofuels forces governments to reduce their level of spending, it is logical to expect that a shrinking overall pie would pit domestic interest groups (and their political counterparts) in an intensified competition for a limited pool of state resources. Given the significant political influence of domestic agricultural lobbies in most agrofuel producing states, and taking into consideration the sometimes competing interests of agricultural and agrofuel producers, a shrinking pie could push many agricultural producers, traders and retailers that do not benefit from agrofuels to support diminishing levels of government support for food-based agrofuels, even plausibly creating greater incentives for non-food based agrofuels or other forms of renewables.

Other areas of WTO trade law that are relevant to consider for regulating food-based agrofuels include domestic content rules and research and development subsidies. It is unlikely that a silver bullet is to be found in the WTO, but the coordinated, strategic, and selective use of multiple WTO rules offers one proven means to curb food-based agrofuels in the here and now. Such a route does not require the creation of new global regulation for food-based agrofuels. The context is important as the WTO faces an internal crisis of legitimacy. The repeated breakdown of the Doha Round negotiations illustrates fractured relations among WTO member states, especially the old and new powers (Hopewell, 2014), due to competing visions of how the international trading system should operate. The uncertainty over the future of the WTO and the breakdown of the old power structure creates a window of opportunity.

Whether the strategic and selective use of WTO rules is desirable and feasible in practice requires further research and debate. This will require communication, consultation and collaboration not just among academics and civil society, but also with national government representatives to the WTO. For even if a solid case, based on research, could be made to use WTO rules to regulate food-based agrofuels, a WTO member state is required to champion the issue because the institution operates exclusively as an inter-state forum. Unlike the CFS, academic and global civil society voices do not go far at the WTO. Therefore, a successful

approach would require a transnational advocacy campaign to bring attention to the issue and shape public opinion, while also working with sympathetic WTO member states to put pressure on other governments. Precedent exists for this, such as the alliance between NGOs and developing countries on the waiver for HIV/AIDS medicines from the WTO's intellectual property trade rules (He & Murphy, 2007).

Any effort to steer states towards changes in global governance is rather long and must navigate complex political terrains at various scales. However, there are reasons why the strategic and selective use of WTO rules could have support. Consider that the majority of the WTO's 160 member states are net-food importers and have already publicly criticized food-based agrofuels mandates for increasing food insecurity. This suggests a potentially large and sympathetic constituency (see Murphy, this issue). In addition, the advocacy strategy of vilifying (certain) agricultural subsidies at the WTO has proved successful in the past for fostering coalitions among states, academics and global civil society, and has resulted in concrete changes to state practices (i.e., vilifying U.S. cotton subsidies that impoverish African cotton farmers). The recent success of India, garnering support for its national food stockholding scheme, is an important example of the new political dynamics of the food-security debate at the WTO (Kripke, this issue); more importantly, the India case provides an important lesson regarding the viability of creative interpretation of WTO rules and moral suasion in the name of food security.

To conclude, in the context of widespread recognition of the pressing need to curtail the harmful social and ecological consequences of food-based agrofuels, and as long as governments remain unwilling to create new global enforceable regulation, the strategic and selective use of WTO rules to regulate food-based agrofuels is an idea that merits future research and debate among academics, activists and policymakers. Some promising areas for future research would be a scoping study of WTO rules and dispute panel decisions to identify which areas of international trade law apply to the production, distribution and trade of agrofuels. Similarly, a detailed assessment of past and current global policy statements and proposals to regulate agrofuels would help to identify and compare the range of possible modalities. More importantly, a mechanism to foster open dialogue among trade experts, social movements and policymakers to assess the possibility of utilizing trade rules to regulate food-based agrofuels (for example, a policy workshop under the aegis of the CFS or UNFCCC), should also be explored.

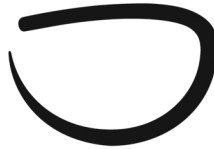
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Section III

Global Food Trade

*Special Issue: Mapping the Global Food Landscape***The uneasy relationship between international trade
and agriculture – Synthesis paper**Kimberly Burnett¹

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In his 2006 book, *Food is Different*, Peter Rosset posited we “get agriculture out of the [World Trade Organization] WTO”. This contention, which is the rallying cry for the Food Sovereignty movement, is that the WTO should not have any purview over agriculture and by extension food systems. Getting the WTO out of agriculture encompasses not only dismantling the 1994 Agreement on Agriculture, which governs both global food trade and extends to national food policies, but also nullifying the entire suite of WTO agreements that apply to various aspects of agriculture, including the Agreement on Trade-Related Intellectual Property Rights (TRIPS), and the Agreement on Trade-Related Investment Measures (TRIMS) (see Burnett & Murphy, 2014). For activists, policymakers, and scholars who take a firm stance of resistance to the WTO, there is no room for compromise with the institution. From this standpoint, the WTO cannot be transformed into a legitimate space to govern international food trade. The underlying concerns motivating much global civil society resistance to agriculture being governed under the WTO are well documented in the papers in this collection and were discussed at length by participants at the workshop in Waterloo. Indeed, the workshop reflected the wider debates in contemporary global food politics that make the WTO such a polarizing issue; you are either against or for it.

The papers by Murphy, Kripke, and Margulis offer different critical perspectives on trade liberalization’s negative consequences, yet even for them (and many others), the WTO’s role in

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regulating agriculture and food is not so black and white. In this summary, I reflect on the papers and discussions that took place at the Workshop. The WTO, including both specific international trade agreements and its decision-making processes, are undisputed here as seriously flawed. However, the three articles identify opportunities for transforming the WTO to achieve specific ends, such as preventing breakdown in international food trade that disproportionately and negatively affects the citizens of low-income food deficit developing countries (Murphy) or rolling-back the expansion of national agrofuel mandates (Margulis). The discussions at the workshop raised looming questions about the WTO and its future: Can the WTO be reformed to create fairer rules for agricultural production and trade? Can the empowerment of developing and least developed countries (LDCs) create a balancing force against the traditional powers in the WTO, such as the United States and the European Union? Can a shift in global power relations, but also political discourse around food, foster new norms in the multilateral trading system that respect food security and sustainable livelihoods beyond current assertions about the benefits of free trade that are based on abstract economic theories?

WTO out of agriculture

As Rosset (2006) points out, food is different from other internationally traded goods. Food is the foundation of human survival. It is a human right. Food and agriculture are the backbones of the livelihoods of roughly three billion of the world's people. It is not a commodity and should not be treated on par with commodities such as automobile parts and computer software. From this view that food is different, it is argued by many that we need the “WTO out of agriculture” because the WTO agreements applied to agriculture restrict the ability of governments to support progressive food and agriculture policies for food security and livelihoods, as well as the power and sovereignty of producers and indigenous communities who produce our food.

An undemocratic power bloc

Another common criticism leveled against the WTO is that it is fundamentally undemocratic and that power is concentrated among a few, which precludes a true representational voice for all its member states. The discussant at the Waterloo workshop noted that “[t]he WTO reflects the demands of the global North, and cannot change course, even at the risk of its own snuffing out” and that unless the interests of smaller or poorer developing countries had equal weight to the interests of the set of large Western countries, the WTO will be unable to address the problems of the global South. The deadlock of the WTO Doha Round of negotiations and its inability to forge a new deal was seen as example of entrenched power politics of the WTO, which bypasses the interests of poorer countries (Clapp & Wilkinson, 2010).

Concerns over the undemocratic nature of the WTO are widespread among supporters and detractors (ActionAid, 2003; Steger, 2009; Wilkinson, 2014). Traditionally, the U.S., EU, Canada and Japan (known as the Quad) had a disproportionate amount of power in the GATT Uruguay Round (1986-1994) trade negotiations that created the WTO. Many report that there were accounts of “arm twisting” in the Uruguay Round, with some developing countries fearing development aid flows and trade preferences threatened, in particular, by the U.S. and EU if they did not sign on to the AoA and other agreements (ActionAid, 2003; Desmarais, 2007). Former WTO Director Generals Mike Moore and Pascal Lamy have both acknowledged such pressure negotiating tactics (ActionAid 2003). In addition, in order to complete the Uruguay Round, many developing countries gave up years of resistance to intellectual property right rules when they signed on to the TRIPS because they were promised greater market access for their key exports, such as agriculture and textiles (Bronckers, 1999, p. 548; Jawara & Kwa, 2004).

The persistent lack of public accountability and transparency, in both multilateral trade negotiations and trade dispute settlement, has also been a common criticism of the WTO (Charnovitz, 2004; Woods & Narlikar, 2001). Decision-making at the WTO has also been criticized for the practice of “green room” negotiations, where key decisions are negotiated among a few select countries. Others have cited the absence of space for global civil society to engage with the WTO, contrasting it against the favoured space granted to the private sector. In comparison, other multilateral institutions have reformed to formally give civil society an equal vote in decision-making processes (Desmarais, 2007; Hopewell, 2013).

One of the key points of contention during the workshop discussion was around whether, given the depth of power asymmetries at the WTO and its undemocratic nature, engagement with the WTO by social movements was desirable. Indeed, a concern raised by Annette Desmarais and others was that engaging the WTO and seeking its reform could result in legitimizing the WTO and its neoliberal objectives at the expense of the pursuit of more equitable alternatives and imagining new possibilities.

WTO power entrenched but not immutable

But others who contest the legitimacy of current WTO rules argue that the institution is not static, and see opportunities for reform. As Sophia Murphy pointed out during the discussion, “the Doha agenda is not the WTO” and there are many aspects of the international trade system that merit further discussion and analysis that can be helpful in advancing progressive food policies, or at least preventing less progressive ones. While recognizing the disproportionate power still held by the U.S. and EU at the WTO, other participants pointed to a number of changes that demonstrate the mutability of power dynamics within the WTO, and potential shifts in the norms that shaped many of the agreements we have today.

One major shift relates to the changing power dynamics at the WTO with the economic rise of Brazil, China and India (Hopewell, 2014; Hurrell & Narlikar, 2006). Meanwhile, the

Group of 33 (G33) developing countries are credited with contributing to stonewalling the Doha negotiations through their entrenched demands for greater flexibility for agricultural policy in order to allow for the prioritization of food security, livelihood security and rural development (Burnett & Murphy, 2014; Raja, 2014; WTO, 2014). The Agricultural Group of 20 (G20) developing countries² at the WTO has also been influential in agricultural negotiations, albeit with less demanding changes than the G33 (Burnett & Murphy, 2014; Raja, 2013). Civil society organizations during the late 1990s and early 2000s had a greater focus on lobbying WTO members but remained on the outside and unable to influence the negotiating table (Burnett & Murphy 2014; Esteve, 2011; Scholte et al., 1998; Williams, 2011).

Meanwhile, the neoliberal norms that underscore the WTO (e.g. free trade, privatization, property rights, etc.) may not be as powerful as they were in the 1990s. As Murphy highlights, the global food crisis, during which international food trade broke down, has undermined confidence among many food importing developing countries that the international trade system can deliver food security. Similarly, even rich countries such as Japan have initiated new policies to increase food self-sufficiency. Indeed, the global food crisis revealed that the international trade system, in generating food import dependence and undermining rural livelihoods, both increases vulnerability to food insecurity and fails to provide supply, access, variety and nutrition (see Murphy, this issue). McMichael (2013) argues that the global land grab can be interpreted as the new security mercantilism with states partially opting out of the WTO food trade regime (see also Akram-Lodhi, this issue). In his article and during the discussion, Margulis also noted that food security has become a major point of friction in the WTO negotiations as over the years food security-related provisions have become more widespread in WTO law. While Margulis acknowledged the increasing purview of the WTO over food security has not been sufficiently debated by WTO members, especially by those states who are the most vulnerable to food insecurity, the G33 and others have begun to press the concept that food security trumps trade liberalization.

A world without a WTO could be worse

A further point of divergence among the workshop participants, and implied by all three of the authors (Kripke, Margulis and Murphy), is that the world without the WTO is potentially more harmful to food security objectives than a world with it. Whether one likes it or not, the WTO regulates food trade and sets the contours around which domestic public food security policies are shaped. Simply put, ignoring the WTO will not make it go away. And as Sophia Murphy

² The G20 coalition at the WTO is a group of 20 developing countries that includes Argentina, Bolivia, Plurinational State of, Brazil, Chile, China, Cuba, Ecuador, Egypt, Guatemala, India, Indonesia, Mexico, Nigeria, Pakistan, Paraguay, Peru, Philippines, South Africa, Tanzania, Thailand, Uruguay, Venezuela, Bolivarian Republic, and Zimbabwe. It is in no way related to the G20 group of twenty major economies.
https://www.wto.org/english/tratop_e/dda_e/negotiating_groups_e.htm

commented, ignoring the WTO will only let it continue on unchallenged. Whereas many participants read the collapse of the Doha Round as signaling the death of the WTO, Margulis claims this is an incorrect view, noting that despite the current stalemate in negotiations, the WTO is very much alive and its everyday work of enforcing trade agreements and facilitating dispute settlements continue. Margulis' paper goes a step further and challenges us to think about whether the WTO is a potential resource to regulate national agrofuel mandates and subsidies. Building on this, he also asked during the workshop discussion, given that there are many rules that allow for agricultural supports, whether we can harness these rules more strategically for agricultural development. Tim Wise, admittedly skeptical of the opportunities to use the WTO as a weapon, does see tremendous value in using it defensively to protect food security.

Further, like many convinced we should not abandon the WTO, the panelists voiced concerns that the WTO, for all its faults, is better than a world with no WTO (Kripke, Margulis, and Murphy). Though it seems counter-intuitive, WTO rules may be less malignant than the requirements under the proliferating bilateral and multilateral trade and investment agreements, which often contain deeper neoliberal qualities and have been labelled as “globalization plus” (Wade, 2003). Many of these agreements prohibit import and export restrictions on food and decrease the scope for states to use public health and safety interests to regulate trade. This could increase the vulnerability of developing country agricultural sectors in global markets (GRAIN, 2008). At the WTO, developing countries have been able to use coalitions to negotiate better terms, advance their interests and resist conditions unfavourable to their interests, including food security. Bilateral and plurilateral agreements will not afford them such agency.

The point is not to accept the WTO and its agreements as they are. It is rather to say that the WTO has shown potential for developing countries to resist and exact agency to achieve more favourable trade rules, while a world without the WTO might, instead, result in a trade regime in which developing countries would have less power and face a shrunken policy space.

Imagining beyond the present

But can the WTO, the UN, or any alternative international or global forum really generate a more equitable trading system that will give priority to food security? Or, as one panel discussant put it: will the U.S. remain “the guerilla in the world that sits wherever it wants”, ultimately determining the direction of trade rules wherever it sits? This is an open and unresolved question. Hopewell (2013; 2014) argues that Brazil and India really only have power in WTO negotiations where they are bolstering neoliberal trade practices and are not necessarily system challengers. In his paper, Kripke argues U.S. opposition to the India Right to Food program is a demonstration of it playing what is essentially the role of the guerilla at the WTO. Yet, despite the power of the U.S., the WTO negotiations have stalled because of the demands of developing countries for greater policy space, in particular for food security (Burnett and Murphy, 2014; Margulis, 2014). And not only is power shifting, but so too have the contours and dynamics of the global food

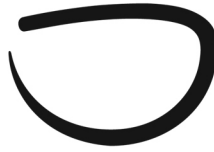
system, and as Murphy suggests, there is a case to be made for international trade rules to regulate agriculture in the present and future but these will need to be dramatically different from what is currently in place at the WTO. The divide among participants at the workshop was largely around strategies to enable an alternative global food system, some seeing it necessary to euthanize the WTO to make room for a new path, others imagining a way to seize opportunities, however limited, within the problematic institution to build a new international trade regime that is truly democratic and committed to ending poverty, ensuring food security and the human right to food, and to doing so sustainably.

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Special Issue: Mapping the Global Food Landscape

Section IV

Corporate role in food and agriculture

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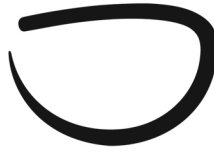
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Transnational corporations are powerful agents on the global food landscape. They have been able to shift and adapt their activities in a global food economy that has been constantly in flux in recent decades, while at the same time shaping it in ways that serve their interests. The papers in this section highlight the strategies corporations have taken to enhance their power and control in the food system across a range of activities from production to consumption and assess the wider implications of corporate activity in the sector.

Focusing on the first link in the industrial food chain, the agricultural input industry, Pat Mooney argues that corporate concentration and control has had devastating impacts on agricultural biodiversity and has pushed against the expansion of the peasant food web. Transnational grain trading companies, as Jennifer Clapp argues, also push against peasant based farming systems by deepening their integration in global agricultural value chains in ways that enhance their own power and control. Corporate strategy in the face of changes has also occurred in the Big Food companies, as Gyorgy Scrinis shows in his paper. As the public and governments have become more aware of the health risks associated with processed and packaged foods, these firms have shifted their strategies to profit from marketing nutritionally enhanced products.

As Caitlin Scott highlights in her synthesis paper, the growing tendency toward corporate concentration and corporate “innovation” in the face of change are key themes that cut across all of the contributions on this topic. Each of the papers points to the difficulties of regulating such

powerful actors, who seem to be able to shape the regulatory context in ways that further cement their power. All of the papers suggest that states can play a more forceful role in regulating firms in the sector, as the risks of not doing so have become abundantly clear.



Section IV

Corporate Role in Food and Agriculture

*Special Issue: Mapping the Global Food Landscape***The changing agribusiness climate: Corporate concentration, agricultural inputs, innovation and climate change**Pat Mooney and ETC Group¹

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For the world's leading agribusinesses, climate change represents both a threat and an opportunity. The threat, of course, is the uncertainty of crop growing conditions and that supply chains won't be able to adjust and deliver inputs of seeds, pesticides, and fertilizers where and when they can be sold. There are two theoretical solutions. The traditional genetics response is to enlarge research to diversify crop and livestock species and to adapt other inputs as/if needed. Alternatively, agribusiness can opt for a different kind of diversification, expanding the limited—but tried and true—repertoire of crops and livestock to more markets on the assumption that they will have sufficient varietal/breed diversity “through time and space” to grow something without upsetting the food/feed processors and retailers.

The opportunity side also means expanding agribusiness services into Big Data software (including weather forecasting and crop insurance—see Isakson, this issue) and metre-by-metre management. Such management is handled through Climate-Smart input machinery that can deliver precise fertilizers and pesticides for specific varieties and growing conditions with, theoretically, reduced greenhouse gas (GHG) emissions. The pressure to reduce the misuse of pesticides and fertilizers could lead to a new set of agribusiness mergers, bringing the already-merged seed and pesticide markets together with fertilizers and farm machinery.

¹ ETC Group's preference is not to attribute research papers to specific staff members or consultants since all of our publications involve contributions from virtually every staff member.

Will agribusiness turn climate into a new market and merger opportunity? Or, will governments finally disband the agribusiness oligopoly and embrace the options already available through peasant-led breeding and agroecology? Will we have a chance to choose?

Innovation and the industrial food chain

Agricultural input companies are the stout first links in the Industrial Food Chain. Although ministers of agriculture talk up “field-to-fork” policies, industry knows the reverse is more accurate: the retail and processor demands drive agricultural inputs—from “fork to field.”² While accepting that the driver in the industrial system has been the “fork”, climate negotiators realize that the chain needs lengthening, from the crop and livestock genomics at the front end to the GHG emissions caused by fossil fuels, fertilizers, and methane at both ends—or as it was recently described to me, from “fuck to fart.”³ Innovation, for the Industrial Food Chain, begins at the wrong point. The bottom line is that the innovative capacity of the agricultural input companies is limited by their own oligopolistic market and by the unwillingness of the other end of the chain to tolerate change.

Historically, the Industrial Food Chain has served society badly in at least three respects:

- Since the Industrial Food Chain took hold after World War II, Western science has lost access to 75 percent of the genetic diversity of our major food crops. This diversity has been replaced by a handful of so-called “distinct, uniform and stable” varieties that meet the seed companies’ requirements for intellectual property protection, the farm machinery industry’s need for uniform planting and harvesting qualities, and the processors’ and retailers’ requirements for consistency and cosmetic traits.⁴
- In the half-century between the establishment of the 1961 UPOV treaty (the Union for the Protection of New Plant Varieties) and 2009, the crops that comprise most of a country’s calories have “imploded” (grown more homogenous) by 36 percent, with major consequences for nutrition and food security. While the number of crops available to most

² Personal communication with former food retail executive, Toronto, November 21, 2014.

³ *Ibid.* Also reiterated at FAO meetings in 2013.

⁴ Based on a review of FAO’s quinquennial Seed Reviews during the 1960s – 80s, ETC Group proposed the 75 percent estimate for major crops in the late 1980s. Canada’s International Development Research Center (IDRC) adopted this estimate in its own reports and FAO has since cited IDRC. In 2013, *The Economist* magazine used the same figure citing FAO. ETC Group argues that while 75 percent of the Centers of Diversity of major food crops has been “wiped out” with the planting of Green Revolution and/or commercial plant varieties, that most of this diversity still remains – out of sight to Western science – in the hands of peasant farmers growing under marginal conditions. Interestingly, the 75 percent estimate has never been challenged by crop geneticists or gene bank directors.

consumers has increased, those important to caloric intake and nutrition have declined. The most climate resilient crops show the greatest losses (Khoury et al., 2014).⁵

- Also, since World War II, the nutritional value—including micronutrients—of most cereals, fruits, and vegetables has fallen anywhere from 5 to 40 percent. While there are a few exceptions—like carrots where the cosmetic interest in orange colouring coincides with nutritional value—quality has been sacrificed for quantity. In a world threatened with the issues of overweight and obesity, we have to eat more to get the same nutrition (Davis, 2009). It may now take “two apples a day to keep the doctor away”.

In short, agricultural input companies in the Industrial Food Chain have lost us a third of our crops, three quarters of their genetic diversity, and much of the remainders’ nutritional value. This is the chain that proposes to lead us to food safety and security through Climate-Smart Agriculture.

A tale of two innovation systems

The resiliency of the Peasant Food Web is based on diversity: ready access to diverse crop and livestock species, diverse varieties and breeds, and cooperative research systems. That diversity should be available within the trading area of the farming community, and not necessarily on every farm. The expertise of neighbours—vertically, up and down hillsides and horizontally, along roadways—is essential.

Conversely, agricultural input companies maintain that they practice “diversity through time”. That is, while they may offer a limited number of genetically uniform varieties in a single growing season, they have an assembly line of innovative plant varieties ready to move into production, as needed, in subsequent plantings. While they concede that peasants may have much greater genetic diversity in the field in a single season—and these varieties change and adapt every growing season—they are not as diverse as those of the companies “over time”. With Climate-Smart Agriculture, companies now claim “Diversity through time and space”: not only can they change varieties every growing season, but they can also offer varieties of the same crop for almost any climatic condition. In other words, the maize variety they sold last year in Mexico might work this year in Iowa, while last year’s Iowa variety might make do in Saskatchewan this year.

Let’s compare the known, practical innovative capacity of the Industrial Food Chain with the Peasant Food Web. In the half-century since the adoption of intellectual property over plant varieties, seed companies have focused down from 7000 domesticated species to 150, and almost

⁵ Between 1961 and 2009, homogeneity increased by 16.7 percent, as measured by the mean change in similarity between each country and the global standard composition, with a maximum (single-country) change of 59.7 percent. Likewise, mean among-country similarity increased by 35.7 percent.

all investment is on no more than a dozen crops. During that same time period, more than 80,000 plant varieties have won intellectual property protection but 59 percent of these varieties have been ornamentals such as roses and chrysanthemums.⁶ Indeed, the world’s largest seed companies often describe themselves as “corn companies”, conceding that 45 percent of global private sector investment is on one crop—maize.

In the same timeframe, peasants around the world have donated approximately 2.1 million unique plant varieties to national and international gene banks. These peasant-bred varieties cover all 7000 domesticated species. Most, but not all, of these peasant-bred varieties are still adapting and changing in the field and are used by farming communities for plant breeding (ETC Group, 2013b). In the livestock sector, the industry has narrowed its innovations to five species—poultry, pigs, bovines, sheep and goats—and roughly 100 breeds (ETC Group, 2013b). Comparatively, peasants breed and nurture at least 40 livestock species and more than 7000 breeds that are hugely more genetically diverse and robust than their industrial cousins (ETC Group, 2013b).

As significantly, peasants not only conserve but also have immediate access to the most commercially important agricultural biodiversity for crops, livestock and much more. So-called “crop wild relatives” are recognized to be at the cutting edge of Climate-Smart Agriculture. Public and private breeders are working with 700 crop wild relatives. Peasants conserve and/or use between 50,000 and 60,000 crop wild relatives that often grow adjacent to their fields (ETC Group, 2013b). Indigenous and peasant communities are also much more successful at safeguarding “protected areas”. In Brazil, for example, the biodiversity lost in peasant-protected areas was 0.6 percent while the losses in government-protected areas was 7 percent. In Mexico, indigenous protected areas were four times more effective and, in Guatemala, 20 times more. At least 1 billion people depend on these areas for food and livelihoods (Pearce, 2014).

If there is a choice to be made between the Peasant Food Web’s “diversity now” and the Industrial Food Chain’s “diversity through time and space”, history shows that the peasants keep it and the corporations lose it. Talk of “time and space” is for Space Cadets.

Concentration versus innovation

As a rough benchmark, economists say that when four firms control 40 percent of a market, it is no longer competitive. Beyond the point where 4 firms control about 50 percent of a market, the

⁶ This is not a contradiction. Ornamentals are vastly less expensive to breed and require almost no regulation meaning that many individuals as well as companies develop new varieties every year. Conversely, the average genetically modified plant variety costs US\$136 million.

concern is a greater likelihood of anti-competitive conduct, and that concentration has a depressing effect on innovation (Bryce 1978).⁷

The logic of increased concentration in corporate control is that PR (Public Relations) beats PR (Private Research). Profits are higher when companies compete in advertising and market management rather than high-risk research. The intellectual property protection that seed and pesticide companies demanded in the 1960s and 70s is now clearly a deterrent to innovation. Large patent portfolios are not a sign of innovation but a barrier to entry to new companies, especially when the members of an oligopolistic market cross-license one another on the pretext of retiring patent disputes and reducing litigation costs.

How concentrated are agricultural inputs? The top 10 global seed companies control 75.3 percent of commercial seed sales. The world's 10 leading pesticide companies control 94.5 percent of sales. But, six of the biggest pesticide manufacturers are also six of the biggest seed companies and together, these six control 75 percent of all private sector crop research (ETC Group, 2013a). Back in the 1970s, chemical companies realized, largely for regulatory reasons, that it was cheaper and faster to adapt plants to pesticides than the other way around. Genetic engineering became the logical tool to realize their Holy Grail: herbicide-tolerant plant varieties—proprietary plants that need their proprietary chemicals—through GM crop technologies.

Until now, livestock genetics have been less high-tech, but have still led to corporate concentration. Seven corporations overwhelmingly dominate breeding for the five commercially important species. Ten companies account for 81 percent of the global “Animal Pharma” market in veterinary medicines (ETC Group, 2013a). Because of the bulk, generic, nature of the fertilizer industry, the top 10 global companies only account for 41 percent of the market. Nevertheless, lead corporations in the industry have a classic and unparalleled century long record of cartels and price fixing (ETC Group, 2013a). That leaves the US\$65 billion a year farm machinery business, where just three companies account for around 77 percent of worldwide sales (Munshi, 2014).

Not only does the oligopolistic nature of the agricultural input industry mitigate against innovation, Climate-Smart Agriculture uses Naomi Klein's “Shock Doctrine” to argue for greater concentration not only to achieve efficiencies of scale but to allow for cross-cutting innovations among different inputs. Concentration across input sectors could encourage real innovation. Herbicide-tolerant plant varieties are an obvious case in point. Whether this innovation is beneficial to food or farming—or only profitable to the companies—is another issue. Sadly, there is no serious review process or quality control in private sector agricultural research.

⁷ Bryce (1978) is the *Report of the Royal Commission on Corporate Concentration*. The Report explains: “There is a general consensus among other studies that concentration aids innovation within the firm up to a threshold level, after which there is no further positive relationship. Scherer, for example, concluded that ‘technological vigor’ increased to the point at which the four-firm concentration ratio reached 50-55 percent, after which increasing concentration had a depressing effect on innovation.” The Report also refers to a “market concentration doctrine,” which holds, in particular, “that the greater the concentration of economic activity in a few firms, the greater will be the likelihood of anticompetitive conduct among these firms.”

Almost all research is considered “proprietary business information” and not accessible to others. We have no way of knowing what companies have tried or what has failed. Input companies can safely claim to be highly innovative without fear of challenge.

Well, perhaps not entirely. According to the USDA, the average genetically modified crop variety developed in the United States comes at a cost of US\$136 million (ETC Group, 2013b). Back in the 1970s, plant breeders were content with the rough estimate that the development of a new commercial variety was well under US\$1 million. Even accounting for inflation, the research and development (R&D) cost is breathtaking. The R&D product is not breathtaking.

If we compare R&D in the pharmaceutical industry, there are serious reasons to be concerned. Arguably, the development of new drugs is the most publicly monitored and tightly regulated research activity in the world. Despite this, two major drug companies—BASF and Amgen—have recently insisted that about two thirds of the peer-reviewed research experiments published in major journals can’t be replicated (“Combatting bad science,” 2014). In a series of articles, *The Lancet* (the Journal of the British Medical Association) argued that fully 85 percent (US\$200 billion per year) of all medical research is either wasted or at least poorly executed (“Combatting bad science,” 2014). If this is the experience of the most regulated industry, what should we expect from agricultural input companies that fly so comfortably below our social and regulatory radar?

From seeds to software

The input end of the food chain is expanding. In the last year, Monsanto has spent US\$1 billion buying two high-tech weather surveillance companies and has also invested heavily in Big Data. The company claims to have detailed historical information on 30 million US farm fields with the precision focused down to 10 x 10 metre units. In the year since it bought Climate Corp.—which uses satellites and aircraft to survey fields and sells crop insurance—Monsanto has increased the customer base for its Climate Basic app to cover more than one third of all US farm land. The company intends to extend its Big Data surveillance around the world (McDonald, 2014). Where Monsanto goes, DuPont and Syngenta are sure to follow. The agricultural inputs industry is positioning itself to be able to advise (i.e. “command”) farmers on what seeds of what crops they should grow on what plots and with which pesticides and fertilizers – metre by metre. Failure to do what the input company recommends could nullify the crop insurance. The only remaining question: Will the big three farm machinery companies buy out the big three seed/pesticide companies, or vice versa?

Do we have choices?

Global agriculture is already heavily impacted by climate change. Can we really do anything more than rap the knuckles of the input companies and hope they do better? If we dismantle the first links in the Industrial Food Chain, do we risk unraveling the entire chain? What could we put in its place?

We do have another choice. 70 percent of the world's food, the food both needed and eaten,⁸ is provided by peasants, from small farms, urban gardens, forests, roadsides, rivers and seacoasts. Taking all of these sources into account, probably far less than 10 percent of the food that is produced worldwide trades across international boundaries, and the vast majority is consumed within the watershed or ecosystem where it is produced. If we want food on the table in a world of changing climates, the focus must be on peasant-led research.

This can sound like Pollyanna politics. The transaction costs and time involved in working with half a billion farmers and even more gardeners across several thousand languages, cultures, and ecosystems, seems overwhelming. Agriculture has to change profoundly in the next few decades.

Peasants have made huge, fast changes before. Without roads or railways or Mendel or Monsanto, peasants spread maize and a half dozen other South American crops throughout Africa, adapting to widely different ecosystems, in less than a century (Brockway, 1970, p. 42). Likewise, other South American crops including sweet potatoes spread across Southeast Asia and China, adapting from mangrove swamps to mountaintops also in less than a century.⁹ Between the 1850s and the 1920s, the US Patent Office—of all places—distributed a cornucopia of free seeds collected around the world to settlers crossing the Mississippi to California. The farmers quickly identified the seeds and crops that worked, and created one of the world's biggest breadbaskets over a couple of generations (Fowler, 1994). What peasants accomplished without Mendelian Plant Breeding or modern communications is still easier today where many peasants – and every peasant organization – have access to a cell phone and camera. La Via Campesina—with hundreds of national peasant organizations and hundreds of millions of peasant supporters—places a strong emphasis on seeds and agricultural biodiversity. Members routinely exchange seeds when they meet and send one another photos of their seeds, fields, and diseases, instantly sharing advice and experience.

Peasant-led agricultural research is not a backward or defensive strategy. As much as peasants can use smart phones, they can also take advantage of what remains of public sector science. Western science favours “high-tech” research that usually advances micro-changes in chemistry or biology that might have macro-applications; that is, they can be applicable for

⁸ ...and not either wasted or “waisted”—overconsumption is not only a health but also an economic and environmental cost.

⁹ The scientific literature has occasionally suggested that the sweet potato had an earlier “accidental” transfer from the Americas across the Pacific Islands to Asia including China but, if it did, it doesn't seem that the transfer had a significant impact.

several species or ecosystems. On the other hand, peasants specialize in broader, farm-system innovations or macro-advances for their microenvironment—“Wide Tech”. Farmers’ organizations and scientific institutes can collaborate as long as the peasants are the leaders. If needed, peasants can also get seeds and advice from the world’s 50 global and regional gene banks. Virtually every country also has a gene bank that can be accessed.

Such a reoriented research strategy could mean that the world would not only withstand climate change, it could possibly substantially increase not only our food choices but also our food quality and quantity. Instead of depending on a handful of energy-dense carbohydrate crops and resource damaging livestock, our larders could be overflowing with diversity.

So, what’s stopping peasants from scaling up? Agricultural input companies backed by the rest of the Industrial Food Chain. National regulatory systems – heavily influenced by international trade regimes even when the food doesn’t cross borders – are skewed so that both health/phytosanitary regulations and markets block diversity, supporting standardized large-scale production systems. The world can meet the challenges of a changing climate but only if we change the chain.

Every time we support local farmers markets, community shared agriculture, agroecology and organic farms, and press for municipal regulations friendly to urban and periurban gardening and livestock keeping, we are challenging and changing the system.

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Section IV

Corporate Role in Food and Agriculture

Special Issue: Mapping the Global Food Landscape

ABCD and beyond: From grain merchants to agricultural value chain managers

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The world of agricultural commodity trading firms has changed over the years, although corporate concentration has long been a defining feature of this sector. The four dominant agricultural trading firms—the ABCDs (ADM, Bunge, Cargill and Louis-Dreyfus)—have a long history dating back to the 1800s and early 1900s. First established as private, family-owned grain merchant companies with specific geographical specialties, these firms have since evolved to be quite complex companies. They buy and sell grain as well as a host of other agricultural and non-agricultural commodities, while they also undertake a range of activities from finance to production to processing and distribution. New entrants into this space have also taken on complex structures and activities in a bid to stay competitive.

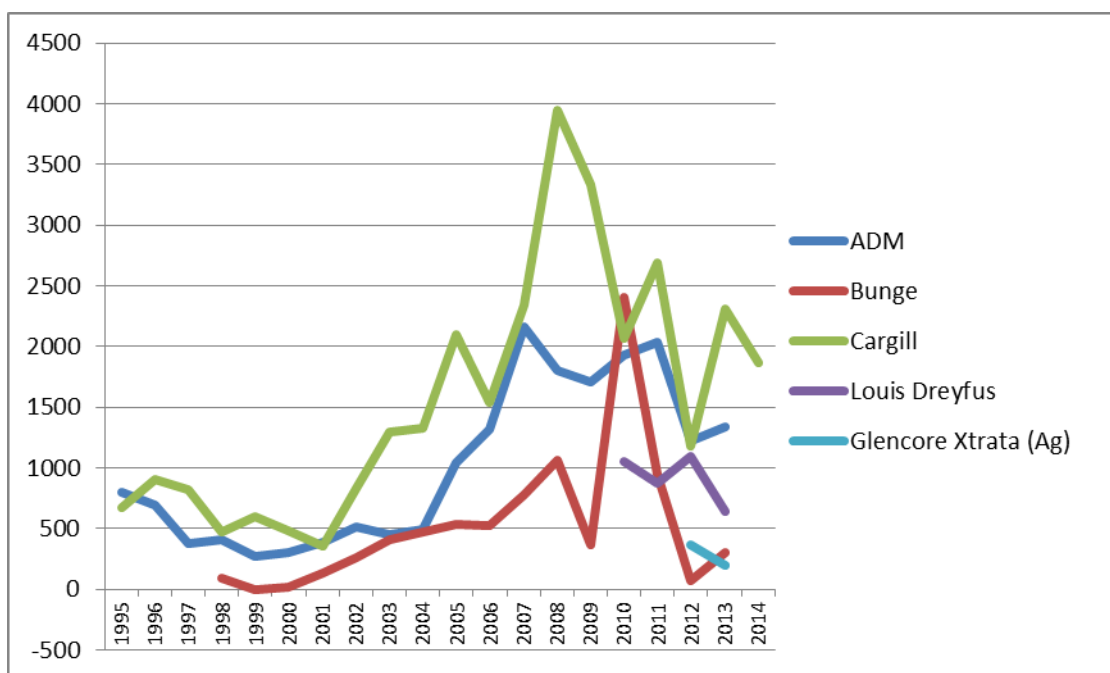
In many ways the world's major grain trading firms now operate more like cross-sectoral “value chain managers” on a truly global scale compared to their grain trade origins. High degrees of concentration combined with control over a vast array of activities give these firms enormous power to shape key aspects of the global food landscape. As a result, the agricultural commodity-trading sector has important implications for farmer livelihoods, hunger and the environment. Following a brief snapshot of the main firms that dominate global grain trading today, I examine the major trends that have reshaped the sector in the past decade. I then outline the main challenges that these changes present for the food system, and suggest possible research directions moving forward.

Snapshot of the agricultural commodity trading sector

Agricultural commodity trading firms are enormous in size, although their precise scale is hard to determine (Blas, 2013a). Cargill, the largest of the grain trading firms, for example, recorded revenues of over US\$136 billion in 2013, and boasts its 142,000 strong workforce. The other dominant firms in the ABCD grouping, although smaller in size than Cargill, are still large compared to firms in other sectors: ADM – US\$89 billion in revenue and 31,000 employees; Bunge – US\$61 billion in revenue and 35,000 employees (Marketline, 2014a, b, c and d, p. 3); and Dreyfus – US\$63.6 billion in revenue and up to 22,000 employees (Louis Dreyfus, 2014a). These major agricultural commodity-trading firms have operations in a number of countries around the world. Cargill and ADM, for example, operate globally; Bunge and Dreyfus focus on the Americas, Europe and Asia.

The ABCDs form a relatively concentrated group that controls over 70 percent of the global grain market (Murphy, Burch, & Clapp, 2012, p. 9), although new entrants (discussed below) are also edging into the market in recent years. Profits on the whole for these firms increased in the period of commodity price volatility since 2007, but their earnings have been highly volatile as well (see Figure 1). The net earnings of these firms, however, have generally been well above levels achieved in the early 2000s. The grain trade surged by over 20 percent in the 2000-2010 period, compared to less than 2 percent growth in the previous decade, and declining nearly 1 percent in the 1980s (Blas, 2013a).

Figure 1. Net Income of the Major Agricultural Commodity Trading firms 1995-2014



Sources: Company websites; financial press

New trends shaping the world of agricultural commodity trading

Three major trends in the past decade are worth noting in the agricultural commodity-trading sector. First, new players have arrived on the scene, and as a result are driving important changes in the organization of the sector. Second, agricultural commodity trading firms have intensified the vertical integration that was already in motion some decades earlier, in effect now becoming managers of entire value chains. And third, agricultural commodity trading companies have also intensified their horizontal integration, diversifying beyond food and agriculture into other sectors. These three trends are intertwined in complex ways and have wide-ranging implications for small-scale producers, hunger, and the environment.

New players

Growing demand for food and agricultural commodities from emerging and rapidly growing economies has brought fundamental changes to the commodity trading firms in the past decade. As incomes have risen in China in recent decades, there has been a steadily growing demand for more meat and dairy products, which has put pressure on global grain supplies as China begins to look abroad for supplies. Africa is also now seen as the latest growth area for commodity traders seeking to market their products (Blas, 2013b). It is not just demand from emerging economies that is changing. There has also been a huge jump in food exports from non-traditional exporters between 2001 and 2009 (Briones & Rakotagrisoa, 2013, p. 5). In this context, new rival agricultural commodity firms have emerged as important players in the past decade and are already challenging the dominance of the ABCD companies.

A number of significant acquisitions and mergers have taken place among several Asian commodity firms as they divvy up the marketplace amongst themselves, and their concentration in the region grows. Wilmar, for example, was first established in 1991 and has since grown to a significant size, with 2013 revenues of US\$44 billion and 90,000 employees (Marketline, 2014h, p. 3). In the same year, China's Cofco had US\$32 billion in revenue and 120,000 employees (Roberts, 2014). Several other Asian commodity trading firms also teamed up in 2014 when Cofco, which is a government controlled agricultural commodity trading firm, acquired a majority stake in the agricultural division of Noble shortly after purchasing a 51 percent stake in Nidera, a Dutch grain trading firm (Roberts, 2014). This move enabled China to get closer to the source of potential grain imports, after it signaled a reduction in its self-sufficiency policy and is expected to increase corn imports over the coming years (Grant, 2014). As such, Cofco has expanded from mainly operating in China, to having connections in the Americas, Europe, and Asia.

Other global commodity firms that have historically focused on non-agricultural commodities are now also edging into agriculture in order to capitalize on their knowledge of a range of markets that have relevance for agriculture. Glencore Xtrata, a Swiss trading firm that

recently diversified into agriculture alongside its more traditional business of minerals and energy, is absolutely massive—with 2013 revenues at US\$ 232 billion and 200,000 employees (Marketline, 2014f, p. 3). By 2014, Glencore Xtrata had become the largest commodity trading company in the world (Meyer, 2013). Before merging with mining firm Xtrata, Glencore acquired the major Canadian grain company Viterra in 2012. Prior to its acquisition of Viterra, Glencore captured around 9 percent of the global grain market (Telegraph, 2011). From 2012 to 2013, the firm’s agricultural activities increased by 43 percent and its agricultural profits reached US\$200 million in 2013 (Glencore Xtrata, 2013). Since this expansion, Glencore now operates in agricultural trade throughout Europe, the Americas, and Australia.

Intensified vertical and financial integration

In recent decades, the commodity trading firms have deepened and consolidated their vertical integration that began in the 1980s. In this more recent period, the firms have moved away from their tendency to maintain an arm’s length distance from producers and farmland, to becoming more closely linked to production processes than ever before. At the same time, they have become much more deeply engaged in financial investment activities in the sector (Murphy et al., 2012).

Rather than simply marketing agricultural commodities that farmers independently decided to produce, these firms have now become careful managers of entire agricultural value chains. The grain trading companies consider themselves to be “originators” of grain supply, and they have become a central focal point for management along entire commodity chains—from land ownership to input supply, to advice and insurance, to growing contracts, to purchasing, to storage, to processing and retail, as well as being active in building and maintaining storage and transportation infrastructure and financing all along the chain (Murphy et al., 2012). Louis Dreyfus, for example, advertises its presence from “farm to fork” and notes: “While on the surface the journey sounds simple, the reality is a complex supply chain that needs to be controlled precisely to secure delivery” (Louis Dreyfus, 2014b).

Technological change and informational advances have helped to drive these firms into all facets of agricultural commodity chains. These firms use their advantage in securing access to the latest information and data on market and production conditions to take on activities that they previously saw as too risky (Blas, 2013a; Briones & Rakotagrisoa, 2013). They are also collecting their own data to maintain their information edge. Cargill, for example, recently launched a software service designed to help farmers with “prescriptive planting,” which happens to also collect huge amounts of data for the firm (Bunge, 2014).

Expanded horizontal integration

Recent decades have seen a greater horizontal expansion of the commodity trading firms beyond food into industrial and other businesses (see Marketline, 2014a-e). Agricultural commodity

traders have become deeply involved in energy markets, for example, both those linked to agriculture such as biofuels, as well as those not directly related, such as petroleum. This shift toward a more horizontal business model appears to be linked to the firms' intensified involvement in global agricultural value chains combined with their financial dealings, which has increased their need to operate in unrelated markets for hedging and speculating purposes.

In this manner, agricultural and non-agricultural markets have become interlinked in new ways by commodity trading firms. ADM, for example, has become a major investor in corn-based ethanol production while Cargill has ventured more fully into the petroleum industry. Both Cargill and ADM are involved in plastics, paints and coatings, shipping, metals and industrial chemicals.¹ Louis Dreyfus is engaged not just in commodity trade, but also asset management, real estate and forestry (Louis Dreyfus, 2014a). The broader scope of commodity trading rivals such as Glencore Xtrata, which only recently diversified from energy and mining into agriculture in a significant way, has in some respects pushed the traditional agricultural traders to themselves diversify into other activities in order to similarly hedge their risks across sectors.

The costs of commodity firm dominance

Commodity trading firms shape markets and the governance of those markets through a variety of strategies: they shape public discourses about their own role in food and agriculture issues; they lobby governments on policy that may affect their business; and they wield enormous structural power that enables them to dictate prices on one hand and to set standards on the other (see Clapp & Fuchs, 2009; Murphy, 2008). The dominance of these firms, even as their context has changed over the past decade, has important implications for the livelihoods of small-scale agricultural producers, hunger, and the natural environment.

Livelihoods at risk

Small-scale producers that specialize in crops such as coffee and cocoa are increasingly being brought into the service of global agricultural value chains dominated by large-scale commodity trading firms. At the same time, commodity-trading firms are also acquiring land in many developing countries, often displacing small-scale producers and contracting farmers to engage in large-scale industrial production crops such as soy, sugar, and oil palm (Oxfam, 2014).

Although commodity-trading firms advertise that they are supportive of a variety of types of producers, the options available to those producers, particularly small-scale farmers, are limited in practice, and their livelihoods are put at risk as a result (see McMichael, 2013). Producers have become effectively captured by the global commodity giants as the latter dictate prices and are the main sources of farm credit.

¹ See the websites of the companies: cargill.com and adm.com.

Food insecurity

There is heated debate about the financial activity of commodity trading firms and its relationship to the broader trend of food price volatility that has plagued global agricultural markets in recent years (Clapp, 2014). Food price speculation has affected world hunger as rising prices have put food out of the reach of the world's poorest people (Worthy, 2011).

The agricultural commodity trading firms claim that they are simply hedging when they engage in futures markets and buy and sell financial derivatives, but in practice it is nearly impossible to differentiate between hedging and speculating. When questioned on whether trading highly uncorrelated commodities constitutes speculating, a Louis Dreyfus executive said “I don't consider that speculating at all. It's what's normally done in the norm of our business. It is our business. It is what we do” (quoted in Meyer, 2014). These firms profit from financial investments in the sector whether prices of commodities are rising or falling. But this activity can have an influence on prices, which in turn affects people's access to food.

Environmental degradation

Distance in the food system has only expanded as agricultural production has been reorganized by commodity trading firms into global value chains that rest on an industrial agricultural model that is both driven and supported by financialization (Clapp, 2014). A number of environmental externalities have been associated with this process, such as a negative impact on biodiversity, water availability, and soil fertility, in addition to contributing to climate change (Dauvergne & Neville, 2010; McMichael, 2010; White, Borras, Hall, Scoones, & Wolford, 2012).

The traditional ABCD commodity-trading firms have begun to face some pressure from food processing firms to address the environmental externalities associated with agricultural supply chains (Terazono, 2014). The websites and annual reports of the commodity-trading firms advertise their sustainability goals and their engagement in promoting “responsible” agricultural supply chains. But because the trader firms do not have brand names themselves, they have little incentive to ensure compliance.

The need to go beyond voluntary approaches

The dominant agricultural commodity trading firms are not particularly regulated. As a recent Swiss government report noted openly, “Physical commodities traders are, in principle, not subject to any oversight” (quoted in Blas, 2013a). Privately held firms, including Louis Dreyfus and Cargill, are not required to report publicly on their earnings and activities. Publicly traded firms are also very selective about the information they release. As a result, we know little about their activities, and what we do know is carefully managed.

The commodity trading firms work hard to give the impression that the lack of regulation is appropriate because their activities serve the public interest. Cargill's 2014 annual report, for example, is titled "Delivering", and stresses that the firm is delivering solutions to hunger, obesity, and environmental degradation. But are these firms worthy of trust in one of the most important industries today that has wide ranging implications for the public interest? There are significant costs to allowing these firms to operate on such a massive and concentrated scale with virtually no oversight.

It is important to go beyond voluntary corporate social responsibility in addressing the impacts of the highly concentrated agricultural commodity trading firms. Future research should explore the following types of questions:

- *What are the prospects for regulation of commodity market speculation by trader firms?* Commodity trading firms have been actively seeking to weaken financial rules around commodity trading (Meyer, 2014b). Whether hedging or speculating, financial bets are driven by the profit motive, rather than by the right to food, the need to secure livelihoods, or protection of the environment. Regulations that tame speculative investments in the sector can help to reduce price volatility and its associated impacts, and create a more supportive environment for the scaling up of alternative food system models. Yet to date progress on this front has been slow and piecemeal.
- *How might a reduction in corporate concentration in the agricultural commodity-trading sector best be achieved?* Banks are retreating from their foray into commodities trading in the face of growing regulation following the financial crisis, but commodity trading houses are getting bigger because they are buying up banks' assets and they are not as heavily regulated (Hume, 2014). This trend raises the question of whether regulators see these firms as "too big to fail" because they are systemically important (Blas, 2013a). How likely is it that governments will break up corporate concentration by regulating mergers and acquisitions through anti-trust legislation? Will these firms continue to escape oversight because of their sheer size and importance?
- *How can transparency and accountability be increased in this sector?* Commodity trading firms may be privately owned, but they control huge segments of the global food industry and their activities have enormous implications for food security, livelihoods, and sustainability. Requiring more detailed reporting on their activities would enable more independent assessment of whether the activities of these firms serve the public's interest.

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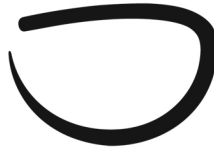
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Section IV

Corporate Role in Food and Agriculture

Special Issue: Mapping the Global Food Landscape

Big Food corporations and the nutritional marketing and regulation of processed foods

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“Big Food” refers to the transnational food manufacturing corporations that dominate the production and marketing of highly processed foods and beverages, with the ten largest corporations comprised of Nestlé, Pepsico, Associated British Foods (ABF), Coca-Cola, Danone, General Mills, Kellogg, Mars, Mondelez International (previously Kraft Foods), and Unilever (Oxfam, 2013). The types of foods that make up the majority of the sales of these firms include snack foods, confectionary, sweetened milk and yoghurt products, ice cream, breakfast cereals, biscuits, sugar-sweetened beverages, and fruit juice.

Global sales of packaged foods have grown by over 90 percent in the past decade, and now total over US\$2.2 trillion (Anon, 2012). Nestlé, for example, achieved sales of just under US\$100 billion in 2013 (Nestlé, 2014). According to some research groups, the ten largest food corporations control around one quarter of global packaged food sales, with the top 100 corporations controlling three quarters of the global market (ETC, 2008, 2011; Lang, Barling & Caraher, 2009). This level of corporate concentration is considerably lower than in other sectors of the food system, such as the grain trading sector (ETC, 2011). Nevertheless these packaged food and beverage companies are some of the world’s largest food and agricultural corporations, and their market size enables them to exercise enormous power and influence over food producers, food consumers, and government policy makers (Winson, 2013).

In terms of their influence over consumers, Big Food corporations are actively involved in transforming dietary patterns through the displacement of minimally processed foods with their more highly processed, packaged, and convenience foods (Monteiro & Cannon, 2012b). Having largely saturated the market for ready to eat and convenience foods in the North, much of

the growth in sales of transnational food corporations has come from low and middle-income countries (LMIC) in the global South (Baker & Friel, 2014; Stuckler, McKee, Ebrahim, & Basu, 2012). For example, the annual growth rate in the per capita consumption of soft drinks from 1997 to 2009 in LMICs was 5.2 percent compared with 2.4 percent in high-income countries (HICs); and of packaged foods 1.9 percent in LMICs compared with 0.4 percent in HICs (Moodie et al., 2013).

This market growth in highly processed foods and beverages has been achieved through a range of corporate strategies, including the production of extremely palatable convenience foods, often achieved through the addition of sugars and sweeteners, salt, fats, and refined grains; the ubiquitous availability of these products; and very large advertising budgets to market their products (Christian & Gereffi, 2010; Moss, 2012). However the goal of transforming dietary choices and increasing sales of these products in the global South has also led some food corporations to develop more targeted and grassroots interventions to create new markets. Nestlé, for example, has launched a floating supermarket named ‘Nestlé Até Você a Bordo’—or *Nestlé Takes You Onboard*—that sails up the Amazon River in Brazil in order to make their products available to 800,000 riverside inhabitants who otherwise find it difficult to access supermarkets. This complements Nestlé’s door-to-door sales system, which includes 7,500 re-sellers and 220 micro-distributors across Brazil (Nestlé, 2013).

The increased consumption of highly processed foods—which is deemed a part of the ‘nutrition transition’—has paralleled the increase in rates of obesity and the rise in incidence of diabetes and other chronic diseases in the South (Friel & Lichacz, 2010; Moodie et al., 2013). The growing concern—on the part of governments, nutrition and health experts, and the wider public—over the diet-related health problems associated with the over-consumption of highly-processed foods and beverages has in turn posed a number of challenges and threats to these corporations.

One of main challenges is the prospect of direct government regulation that would restrict the types of foods and beverages that corporations produce, or how they market and sell their products. Over the past decade, many governments and policy makers have demonstrated a new resolve to more directly regulate processed foods and their marketing. This includes regulations setting limits on *trans*-fat content in Denmark; voluntary schemes to reduce the salt content across entire food categories in the U.K. and Australia; food labeling initiatives such as the voluntary traffic light labels in the U.K.; calorie and *trans*-fat labeling in the U.S.; and taxes on sugary drinks in Mexico and Hungary (Capacci et al., 2012; Downs et al., 2013; Mytton, Eyles & Ogilvie, 2014).

Another potential threat to Big Food corporations is the prospect of litigation arising from health problems related to the consumption of their products, in some ways akin to tobacco litigation (Alderman & Daynard, 2006; Mello, Rimm & Studdert, 2003). There is also the potential for a decline in sales—or a reduced rate of growth in some markets—as health-conscious consumers grow wary of highly-processed foods and switch to more healthful food options.

Big Food's responses to health concerns

In response to these challenges, Big Food corporations have employed both negative and positive strategies. One type of response has been to deny any special responsibility for these health problems, as well as to actively undermine the introduction of mandatory government regulations (Wiist, 2011). This suite of negative responses includes funding counter-nutritional studies to undermine expert consensus; emphasizing the role of lack of exercise in weight gain, rather than the over-consumption of particular foods; emphasizing personal responsibility over corporate responsibility; the direct lobbying of governments and policy makers; the sponsorship of expert bodies; and the funding of front-groups that run public campaigns to discredit government interventions (Miller & Harkins, 2010). For example, the food industry is reported to have spent up to one billion dollars lobbying against the introduction of the U.K.'s traffic light labeling system in the European Union (Swinburn, Swinburn & Wood, 2013).

However Big Food companies have also recognized the need for—and the benefits of—more positive responses to these health concerns by presenting themselves as part of the solution to these dietary health problems (Acharya, Fuller, Mensah, & Yach, 2011; Feldman, 2010). This includes producing “healthier” food products, smaller portion sizes, new labeling initiatives, and nutrition education campaigns (IFBA, 2013). These initiatives form a part of the Corporate Social Responsibility (CSR) agendas of these companies (Dorfman, Cheyne, Friedman, Wadud, & Gottlieb, 2012; Simon, 2012). Savvy food corporations are in fact positioning themselves to benefit from these health concerns by producing products intended to appeal to health-conscious consumers. Indeed Nestlé has recently moved to rebrand itself as the “world’s leading nutrition, health and wellness company” (Nestlé, 2010).

Food corporations have also responded to increased public pressure to restrict the advertising of “junk” or poorer quality foods to children by introducing their own voluntary and self-regulated advertising standards. These include both single company and cross-industry initiatives. Pepsico, for example, has pledged to only advertise to children under 12 those products that meet the nutrition criteria developed by the Children’s Food and Beverage Advertising Initiative in the USA (PepsiCo, 2014).

A key feature of these corporate initiatives has been to present consumers with a greater range of product “choices” and options, and to thereby place the onus on consumers to achieve nutritional balance in their diets. Pepsico, for example, has divided its food products into three distinct “portfolios”: good-for-you products that they deem to be nutritious; better-for-you products that have typically had the fat or calories reduced; and fun-for you products, their more “indulgent” products (PepsiCo, 2013). Coca-Cola similarly advertise a range of calorie options within their beverages range, from full-calorie to reduced-calorie and no-calorie sweetened beverages (Coca Cola, 2014).

In terms of developing and marketing healthier products, I will distinguish between three types of corporate strategies: the *fortification* of foods with micronutrients; the product *reformulation* of foods primarily to reduce the quantity of harmful nutrients; and adding

beneficial or ‘functional’ nutrients for enhancing health, or what I’ll refer to as *functionalization*. These nutritional engineering and marketing practices address the health problems of both under-nutrition and over-nutrition, and are variously directed at rich or poor consumers across the North and South.

Product reformulation usually involves reducing the quantities of potentially harmful nutrients or food components in processed food products and the food supply, and may involve setting upper limits for these components (Buttriss, 2013). These so-called ‘bad’ nutrients and components—or “nutrients to limit”—typically include salt, sugar, saturated fat, total fat, *trans*-fats, and energy (i.e. calories or kilojoules). Salt reduction has been a key focus of many companies, with the aim of gradually reducing salt content over a period of time in order for consumers taste buds to slowly adapt to these changes (Moss, 2012).

A number of companies have made pledges to reformulate their products (IFBA, 2013). For example, Nestlé has developed its own nutrient profiling system which sets limits on a number of food components, with a specific set of criteria for each product category, including a pledge that all of their child-oriented products will have met their criteria by 2015 (Nestlé, 2013). Pepsico has also pledged to reduce the amount of added sugars and salt per serving in their key global food and beverage brands by 25 percent by 2020 against a 2006 baseline (PepsiCo, 2013). There are also multi-company or industry-wide commitments to reformulate products. This includes the Healthy Weight Commitment Foundation in the U.S., which in 2012 pledged to remove 1.5 trillion calories out of the US food supply (Ng, Slining, & Popkin, 2014).

These product reformulation strategies are also endorsed by some governments in the form of voluntary public-private partnerships. For example, the U.K. government’s Responsibility Deal, which is based on its “nudge” political philosophy, allows companies to set their own reformulation targets; and the Australian government’s Food Health Dialogue collaboration with the food industry has so far focused on voluntary salt reduction (Elliott et al., 2014; Marotta, Simeone & Nazzaro, 2014). However, while we may welcome the reduction of some of these single components already found in extreme quantities in some foods, such as sugar and salt, it is arguable whether many of these reformulated products are “healthy” or are any less processed and nutritionally degraded than the original products, particularly when these components are simply replaced with other cheap and refined or chemically reconstituted ingredients (Monteiro & Cannon, 2012a; Scrinis, 2013).

Micronutrient fortification involves fortifying foods with micronutrients to address real or perceived micronutrient deficiencies in populations or individuals. While the basic vitamin and mineral fortification of common foods such as breakfast cereals has long been a marketing strategy of food manufacturers in the North, food corporations have increasingly adopted this strategy to guide the engineering and marketing of highly processed foods targeting poorer consumers in the South. The nutrients added to foods are advertised on the packaging, and are thereby intended to address the real or perceived scarcity of these micronutrients amongst the target market. For example, many of Nestlé’s range of “Popularly Positioned Products”—which

they target at low income consumers around the world—are fortified with iron, zinc or vitamin A, such as their affordable and popular Maggi range of stock cubes (Nestlé, 2011).

These micronutrient fortification strategies can be contrasted with the addition of supposedly beneficial or health enhancing nutrients and food components to foods. This latter approach is targeted at consumers seeking to improve their diets and attain specific health benefits, rather than just address basic nutrient deficiencies. These foods typically carry government-sanctioned nutrient-content or health claims that directly or indirectly suggest that these products target and enhance particular bodily functions or processes, or are able to reduce the risk of particular chronic diseases. These foods are sometimes referred to as “functional foods”, and include cholesterol-lowering margarine, probiotic yogurts, and omega-3 enriched orange juice (Lawrence & Germov, 2008). This “functionalization” strategy may be applied to poor quality, highly processed food products, but it is also applied to better quality, premium products that are intended to appeal to health and nutrition conscious and higher-income consumers.

These various commercial strategies for re-engineering foods are typically based on the assumption that adding or removing specific nutrients or food components can substantially improve the quality of a food. The nutrient-content and health claims that typically adorn the packaging of these products—and the scientific evidence which underpins them—often rely upon a reductive focus on and interpretation of the role of these nutrients in bodily health. I refer to this nutritionally reductive approach to food as the ideology of *nutritionism*—an ideology that has been dominant within the nutrition science discipline over the past century, and in recent decades has increasingly come to underpin dietary guidelines, food marketing strategies, and nutrition policies (Scrinis, 2013). The focus on specific nutrients within foods is also an effective marketing strategy for food companies, as it may be used to deflect attention from the quality of the ingredients in their products.

Regulating Big Food corporations

While national governments have shown a greater willingness to regulate the products and practices of processed and fast food corporations in recent years, there are a number of limitations with their policy responses to date. First, there is often a preference for industry self-regulation and voluntary public-private partnerships, rather than mandatory regulations (Stuckler & Nestle, 2012). Allowing corporations to set their own standards and to voluntarily apply these standards, and without legislative mechanisms to enforce the standards, has so far translated into only incremental and uneven improvements in the quality of food products.

Second, even while introducing some initiatives designed to improve product quality or to regulate front-of-pack labeling, government policies continue to enable food corporations to market their products with exaggerated or essentially misleading nutrient and health claims. For

example, food labeling regulations continue to allow nutrient-content claims on highly processed foods, with few restrictions on the types of foods upon which these claims may be placed (CSPI, 2010).

Big Food corporations are also continuing to grow the market for their highly processed food products in the yet-to-be-saturated markets of the global South. Any marginal improvements in their products are likely to be nullified as ever more populations shift their dietary patterns towards highly processed food consumption. In this sense, Big Food corporations continue to grow their proverbial pie even as they reformulate their pie.

Government policies that only regulate the quality of particular foods, or particular practices of food labeling and marketing, may be ill-equipped to challenge the power of these food corporations to shape and transform food consumption practices around the world.

There is a need for more research to evaluate the overall impact of these corporate food strategies, and into the sorts of policies and strategies that might contain the spread of their products into new markets. Research is required to closely monitor and evaluate the practices and products of food and beverage manufacturing corporations (Brinsden et al., 2013). This includes evaluating the nutritional quality of their new and modified products, the types of marketing practices employed, and the sales of their products in countries in the North and South.

A second area is to research alternative approaches to understanding food quality that do not rely on a reductive focus on nutrients. This includes developing and testing a framework for understanding and categorizing foods in terms of levels and types of processing (Monteiro, Moubarac, Cannon, Ng, & Popkin, 2013; Scrinis, 2013). Such an approach has already been applied in the development of the new Brazilian Dietary Guidelines introduced in 2014 (MHB, 2014).

A third area is to explore and test policy and regulatory approaches that more directly challenge and restrict the production, promotion and sales of poor quality processed foods. Such policy approaches will themselves need to break free from the nutrient-focus of some existing regulatory approaches to food composition and labeling. Stronger policy and regulatory approaches are also required that move beyond the reliance on industry self-regulation, and that place direct and enforceable limits on the types of products that are permitted to be produced and marketed.

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Section IV

Corporate Role in Food and Agriculture

*Special Issue: Mapping the Global Food Landscape***The role of transnational food and agriculture corporations in creating and responding to food crises—Synthesis paper**

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Transnational corporations (TNCs) have been important players in the globalization of food and agriculture. The preceding papers focused on the ways in which the modern food system is a result of the growing influence and global expansion of agrifood TNCs. Pat Mooney outlined the increasing concentration in agricultural input corporations, highlighting the environmental and health costs that result from their power and control. Jennifer Clapp described the latest changes in commodity trading firms, showing that the historically private nature and evolving horizontal and vertical integration in this sector, along with new players, have been damaging for the environment and livelihoods. She argues for increasing transparency and greater regulatory oversight. Finally, Gyorgy Scrinis explored the ways in which food and beverage manufacturing companies ('Big Food') are responding to concerns about the health impacts of their products by adopting forms of *corporate nutritionism*.

Reflection on the role of these significant actors in the food system is critical at this juncture if we are to grapple with how best to move towards a more sustainable and just food system. Key questions arise: Can corporations in highly-concentrated sectors be trusted to innovate and contribute positively to sustainability and health? How are corporations presenting themselves in response to perceived crises in the food system, which threaten their profits? Finally, what sort of governance and oversight is needed to align corporate behaviour with the public interest? The preceding papers provide a compelling case for why current corporate actors are not well-equipped or inclined to move towards providing sustainably-produced and healthy

food for all. Furthermore, despite representing a fairly small percentage of global food produced and consumed, these actors play an important role in shaping debates about the way forward and as such are critically important to consider. The discussion will be divided into three parts to reflect the key questions raised above: (1) concentration and innovation among TNCs; (2) reaction to perceived crises and discourse; and (3) governance and alignment with the public interest.

Concentration and innovation in food and agriculture TNCs

Much of the initial discussion at the workshop in which these papers were presented focused on the trend of growing concentration—of market share and power—in food and agriculture TNCs, highlighted by Mooney and Clapp. Mooney’s contention that these companies have become ‘too big to innovate’ was underscored as a key issue. As these corporations become more centralized and concentrated, working at increasingly larger scales, the list of innovations that work for them is narrowed. In turn, the list of stimuli that spur innovation is limited. Mirroring a common theme in this issue, the conversation turned to whether or not the current state of food and agriculture can be viewed as a crisis—or if this thinking limits the way in which we perceive a path forward. As was noted in discussion, the catastrophe lies precisely in that the corporations do not view this as a crisis or a failure. Although many feel the negative effects from episodes like the food price crisis, some—including many agrifood companies—have benefited. If we contend that the path forward will require innovation and drastic changes to the status quo, regardless of whether the status quo is contextualized as a crisis, how then can we view companies that lack incentive to innovate, and that profit from maintaining the status quo, as viable partners with solutions to the challenges ahead?

Given these concerns, questions arose about tolerable levels of corporate concentration. While corporations present their concentration as creating efficiencies, some view that the modus operandi of corporations seems to be to determine what is unacceptable and walk as closely to that line as possible. Indeed, monopolies and oligopolies are acceptable to finance because large, concentrated TNCs are highly profitable (and viewed as stable; see Martin, this issue). A clear advantage thus exists for corporations and finance to pursue concentration, attaining power and profits in the meantime. But, as Mooney (this issue) asks, what are the outcomes of this concentration for sustainability and food availability? Are firms with near-monopoly status held accountable? And, at what point does concentration begin to affect innovation and path dependence? Corporate actors portray themselves as able to more efficiently provide agricultural goods and use their ability to collect knowledge to their advantage, but their expanding role has been concurrent with the sustainability and justice issues that have caused debates over crisis.

The three papers from this section make it evident that there are a variety of factors driving patterns of concentration in agrifood TNCs, including awareness of their vulnerability, and a desire to manage risk. The authors converge on the related process of narrowing crop

varieties. What is the principle driver of this trend? As the papers note, it may be control of the supply chain, financialization, or food companies looking for new markets. Or, perhaps these are all interconnected elements of the overall food landscape in which corporations are able to gain more power and concentration.

While not represented in this section, the role of the retail sector cannot be ignored. Supermarkets have gained incredible power and authority in recent years, with some arguing that they have attained the greatest power and influence in the system (Burch & Lawrence, 2013). The retail sector is also highly concentrated, and through its buying power has attained the ability to affect decisions made throughout the rest of the supply chain and thus affect the trends discussed previously (Fuchs, Kalfagianni, & Arentsen, 2009). Retail power is a key area of interest and connected driver of concentration through the interrelated trends of supermarket power and financialization (Vander Stichele, 2012).

Food and beverage manufacturers, as Scrinis notes, are much less concentrated than agricultural input firms, commodity traders, and retailers; however, they are still very powerful players within the food system. Their connection to and dependence on the rest of the supply chain has emphasized their vulnerability and served to increase the strategies they use to gain and maintain power. This sector points to the various other ways that corporations have gained power in the system, which are key parts of how they are reacting to perceived crisis and vulnerability and presenting themselves as a partner in solutions for a better food system.

Corporate reactions to crisis

TNCs have presented themselves as the solution to uncertainty around feeding growing populations and to reducing the environmental impacts of food, claiming that they have the resources to innovate and take advantage of efficiencies to provide sustainable food security. In doing so, they have exercised various forms of power that go beyond the power gained through market share (Clapp & Fuchs, 2009). Lobbying is a key challenge to creating change, with the power of big corporations expressed through their ability to affect regulatory outcomes by gaining access to key decision makers. Clapp notes that some of the biggest commodity traders, because they are privately owned, are able to lobby and use their structural power in less transparent ways.

Managing discourse and debates is another critical way that corporations exercise power, and a means by which less concentrated industries (like Big Food) have been able to control perceptions of their activities and deny responsibility for negative outcomes associated with their products (Sklair & Miller, 2010). At the same time, as Scrinis (this issue) makes clear, food and beverage manufacturers are using current framing of nutrition debates to profit from innovations in product re-formulation and present themselves as positive contributors to change. These reactionary measures highlight the ways in which innovation may be spurred, while not necessarily aligning with public interests of health and sustainability.

Is it fair to perceive all actors as equal in this system? Are some corporate actors able to contribute positively to change? Indeed, there is theoretical potential, given corporate ability to quickly scale up innovations. But does this align with their fiduciary responsibility to grow? Corporate actors are creating private forms of governance in order to fill seeming governance gaps that have resulted from a rolling back of the state (Guthman, 2007). However, the results of many of these initiatives have been patchy at best, and harmful at worst, with many having limited results for sustainability and negative impacts for small-scale farmers (Fuchs et al., 2009).

Governance for public interest protection

Given the challenges highlighted above, the contributions also discussed ways forward and questions of governance. As all three papers noted, agrifood corporations are not effectively regulated despite the fact that they control so much of agricultural value chains, from inputs to food and agricultural products. Yet, business actors assert that they are delivering food security, environmental protection, and solutions to non-communicable disease in the most efficient way possible. If they claim to do these things in the public interest, it is critical that we reflect on ways to ensure that this is the case, and determine the entry points for challenging the developments associated with increasing corporate concentration and centralization.

Reining in monopoly power of corporate actors appeals across political lines as a means by which to foster fair competition. Why then has there been so little movement on this front? Is there a knowledge problem given the lack of transparency? Are those who would find the levels of concentration intolerable not connecting the dots? Corporations in the sector are actively engaging in public relations to promote their approach to improving the food system. Similar work needs to be done to offer alternatives to TNCs, such as small-scale farming systems. The food system is at the center of multiple environmental discourses on conservation and preservation, as well as growing awareness about the health costs associated with poor diets. There is room to bring together these multiple narratives of food and environment in response to corporate power.

The reaction of governments and civil society to corporate power has been fragmented; however, given corporate lobbying and strategy, as discussed above, this is perhaps unsurprising. One avenue for hope may be opening up space to show the various ways in which corporations are not delivering the efficiencies they are claiming, and exploring the broader outcomes of simplified efficiency ratios by taking into account some of the “biophysical overrides” required to attain increasing efficiency (Weis, 2013).

Transparency is a key theme in the governance literature that was highlighted by a number of workshop participants. Greater regulations on reporting requirements and transparency provide the ability for civil society and governments to better understand and

regulate corporate behavior. The control that supermarkets and finance have over pricing in value chains, for example, necessitates greater transparency around pricing mechanisms.

Beyond transparency, we must take advantage of multiple scales of action. Too often when dealing with corporate actors, there is a tendency to discuss governance only at the global scale, through international governance organizations like the World Health Organization or Food and Agriculture Organization. It is important to think at different levels of regulation, and to foster opportunities at the national level to regulate imports and messaging around products (see World Cancer Research Fund International 2015 for health examples). Opportunities at the national government-level exist to effect change and encourage social movements to build alternatives to corporate dominance.

Conclusion

The panelists' papers and presentations and the subsequent discussion underscored the increasing concentration and centralization of corporations, as well as the political authority they attain and maintain through various other activities including lobbying and private governance mechanisms. In attaining this power, corporations have become active players in the discussion around solutions to perceived or potential food crises. Holding corporations accountable to align their activities with public interests becomes the main task going forward. Returning to the key questions, it is important that we continue to ask where the best entry points are to deal with the apparent conflict between corporate fiduciary responsibility, the environment and health. Additionally, we must continue to work to better understand and critique corporate attempts to present themselves as the solution. Finally, much of the discussion suggested that there is a need for government and civil society to coordinate discussion to better regulate concentration, transparency and behavior of business.

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Special Issue: Mapping the Global Food Landscape

Section V

Food sovereignty

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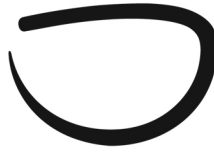
Citizens in many countries are increasingly wary of the global industrial neoliberal food system. A number of food scares, growing awareness of human rights abuses in the countryside, a global food crisis, and climate change have all prompted many to form alternative food movements that are intent on building sustainable, just, safe and healthy food systems based on food sovereignty.

This section explores various dimensions of food sovereignty. Annette Desmarais traces the peasant roots of food sovereignty and its initial focus on production to concerns about distribution and consumption as it is embraced by urban based social actors. Desmarais also highlights the challenges of implementing food sovereignty and points to the important role that research plays in the conceptualization and implementation of food sovereignty. Hannah Wittman raises some important questions related to how food sovereignty can be institutionalized by analyzing the specific case studies of Ecuador and Brazil. She ends by making the case for a multi-scalar approach to food sovereignty that recognizes the importance of local and national spaces while also acknowledging the importance of the global policy arena. Blain Snipstal encourages us to get down to the nitty-gritty, to the practical and production aspects of food sovereignty, by exploring what it means to be a peasant and how this is linked to the practice of a radicalized and politicized form of agro-ecology. In doing so, he demonstrates

how the revolutionary aspects of food sovereignty lie in better understanding the significance of ancestral peasant knowledge and wisdom in shaping new practices and cultures.

The section rounds off with a thoughtful contribution by Andrés García Trujillo that focuses on three key challenges that the Global Food Sovereignty Movement faces in its efforts to effect change. García Trujillo points to the complexities involved in, and the need for, working at multiple scales: the local, national, and global. He then points to the importance of ensuring mechanisms and processes that ensure democratic practice, a central component of food sovereignty. He concludes by highlighting the need as well as the challenges to forging broader alliances in efforts to build food sovereignty.

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The gift of food sovereignty

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In April 1996 representatives of peasants, small and medium-scale farmers, rural women, indigenous representatives, and farm workers from the global North and global South travelled to Tlaxcala, Mexico to participate in the Second International Conference of La Via Campesina. For members of La Via Campesina, the globalization of a neoliberal industrial model of agriculture had created an acute crisis in the countryside around the world that was accompanied by the rural exodus and disempowerment of peasants and small scale farming families, human rights abuses, and environmental degradation. In refusing to be “disappeared” and struggling for the right to exist as small-scale food producers, they collectively imagined a powerful counter-narrative to large-scale corporate-led agriculture: a socially just, rights-based, ecologically sustainable “future without hunger”, a future based on food sovereignty (Desmarais, 2007; La Via Campesina, 1996a, 1996b).

Over the years, the idea and practices of food sovereignty gained momentum and are now the rallying cry of numerous social movements in various parts of the world, thus prompting some policy makers and academics to examine more closely its potential and limitations to building socially just, ecologically sustainable and rights-based food systems. This article briefly discusses the origins, meanings, accomplishments, and challenges of food sovereignty while highlighting some of the key social actors involved.

Food sovereignty gains traction

Since it was first introduced at the World Food Summit in 1996 and following a relatively short period of persistent mobilization, La Vía Campesina’s notion of food sovereignty gained traction and generated considerable interest and action. First, other rural movements, urban-based groups, and non-governmental organizations in different parts of the world began using food sovereignty to frame their demands for food systems change at the local, national, and international levels. This civil society momentum culminated in what is now called the Global Food Sovereignty Movement. Second, international studies on agriculture and food acknowledged the potential of food sovereignty as an alternative rural development framework (McIntyre, Herren, Wakhungu, & Watson, 2009). As the authors of the recent *Environment and Trade Review* published by the United Nations Commission on Trade and Development (UNCTAD) argue “Meeting the food security challenge is ... primarily about empowerment of the poor and their food sovereignty” (UNCTAD, 2013, p. i). Third, some governments—for example, Ecuador, Bolivia, Venezuela and Nepal—have included food sovereignty into their national constitutions and developed new legislation (McKay, Nehring, & Walsh-Dilley, 2014; also see Wittman, this issue).

Arriving somewhat later on the scene, more academics have begun to research various dimensions of food sovereignty, thus contributing to critical debate. A database search and examination of academic writing produced in 2013 and 2014 reveals that the food sovereignty literature is indeed growing and becoming more robust. While some of the 200 entries¹ of academic literature produced during these two years analyzed the political and economic context in which food sovereignty struggles occur, other contributions deepened some theoretical dimensions of food sovereignty by examining its links to the right to food and food security (Jarosz, 2014),² questions of how it addresses gender and inequality, and the role of trade. Importantly, the Indigenous food sovereignty literature is contributing critical ecological and spiritual understandings to existing food sovereignty theory and practice (Grey & Patel, 2014). An impressive number of empirical studies conducted in various parts of the world highlight the links between food sovereignty and agroecology, its contributions to nutrition and health, the complexities and benefits of building alternative economies, and food sovereignty’s deep political roots in struggles for agrarian reform. Interestingly, as some argue, food sovereignty also involves adopting different ways of doing research (La Vía Campesina, 2000; Levidow, Pimbert, & Valoqueren, 2014; Pimbert, 2009).

The momentum generated by civil society mobilization and action, academic research, government programs, and legislation (applied most notably at the municipal levels) means that

¹ Because they were not available at the time of writing, the data search did not include the articles that will appear in two upcoming special editions of *Globalizations* and the *Third World Quarterly*.

² See for example, the Article Forum of the *Dialogues in Human Geography*, Volume 4, Issue 2 for an excellent series of articles that analyze the points of convergence and divergence of food security and food sovereignty.

food sovereignty is perhaps now the most popular of alternative visions of food and agriculture.³ Whether it is called an idea, concept, framework, mobilizing tactic, counter-narrative, counter-movement, political project, campaign, process, vision, or even a living organism, food sovereignty has captured the hearts and minds of many who struggle for social change. Food sovereignty and other closely related concepts like “food democracy” and “food justice”—and the social actors involved—are making food production, consumption, and distribution key social and political issues (Moore, 2014; Alkon & Agyeman, 2011; Alkon & Mares, 2012; André, Ayers, Bosia, & Massicotte, 2014).

The discourse and practice of food sovereignty is contributing to a paradigm shift in thinking about food and agriculture, and the place of agriculture and food in people’s lives (Wittman, Desmarais, & Wiebe, 2010). Moore (2014, p. 23) even suggests that “food and agriculture has [now] become a decisive battleground of the world class struggle. . . . Food security, safety, and sustainability have become central questions in the everyday lives of the world proletariat, from Beijing to Boston (Lam et al., 2013).” He goes on to argue that La Vía Campesina—and I would add food sovereignty—represent a key moment in the world history of food and agriculture because both “challenge[s] the very heart of capitalist productivism in agriculture” while “assert[ing] a revolutionary ontology of food – food as biospheric, as democratic, as cultural. . . *all at the same time* (McMichael, 2012; Wittman, et al., 2010; Akram-Lodhi, 2013)” (quoted in Moore, 2014, p. 23, emphasis in original). As “an ontological alternative” to the neoliberal food regime (McMichael 2014), there is not doubt that the proponents of food sovereignty have helped create new spaces for, and shift the terms of, debates about food production, distribution and consumption. Many of these debates highlight the need to transform power dynamics that shape food systems and address the following questions: what food is produced/ harvested? How and where is food produced/gathered and at what scale? Who produces and gathers food? Importantly, food providers and peasants are now seen as key protagonists (Desmarais, 2007; Van der Ploeg, 2014).

What is food sovereignty?

Food sovereignty “is the right of peoples and nations to control their own food and agricultural systems, including their own markets, production modes, food cultures and environments” (Wittman et al., 2010, p. 2). This concise definition, while capturing aspects of what is at the heart of food sovereignty, perhaps oversimplifies the complex ideas, theory and practices involved. La Vía Campesina conceptualized food sovereignty as “a precondition to genuine food security” in that it entails exercising the basic human right to food, implementing genuine agrarian reform, protecting natural resources, reorganizing the food trade, ending the

³ It is interesting, for example, that a Google search for “food sovereignty” revealed 484,000 results whereas “sustainable intensification”, another term used for food system change, yielded only 186,000.

globalization of hunger, securing social peace, and democratizing control of the food system (La Vía Campesina, 1996b).

Initially grounded in rural politics and questions primarily concerned with production, food sovereignty was later expanded to encompass the interests of other food providers (i.e. pastoralists), gatherers, fisherfolk, and urban dwellers. These are captured in the following much-cited principles of food sovereignty developed at the Nyéléni Global Forum for Food Sovereignty held in Mali. Namely, food sovereignty “Focuses on food for people, Values food providers, Localizes food systems, Puts control locally, Builds knowledge and skills, and Works with nature.”⁴ It is important to note that in Canada, a seventh principal was added: “Food Sovereignty understands food as sacred, part of the web of relationships with the natural world that defines culture and community” (Peoples’ Food Policy Project, 2011). As Cathleen Kneen (2010) explains,

If food is sacred, it cannot be treated as a mere commodity, manipulated into junk foods or taken from people’s mouths to feed animals or vehicles. If the ways in which we get food are similarly sacred, Mother Earth cannot be enslaved and forced to produce what we want, when and where we want it, through our technological tools. And of course, if food is sacred, the role of those who provide food is respected and supported. (p. 92)

Gender equity has been integral to the meaning of food sovereignty since its inception. A close reading of La Vía Campesina positions related to food sovereignty stress the need for women’s equitable access to and control over productive resources, equal participation and representation in all decision-making bodies, and most recently and importantly, that food sovereignty means “stopping violence against women” (La Vía Campesina, 2008a). As La Vía Campesina’s Declaration of Maputo states “If we do not eradicate violence towards women within our movement, we will not advance in our struggles, and if we do not create new gender relations, we will not be able to build a new society.” (La Vía Campesina, 2008b, p. 4)

While the conceptual framework and practices of food sovereignty are evolving continually, there are some theoretical dimensions that remain constant. At the core of food sovereignty is a set of goals comprised of strengthening community, ensuring livelihoods, and building social and environmental sustainability in the production, consumption and distribution of nutritious and culturally appropriate food. As we argued elsewhere, “The pursuit of these goals is informed by a range of strategies: respect for place and diversity, acceptance of difference, understanding the role of nature in production, human agency, equitable distribution of resources, dismantling asymmetrical power relations and building participatory democratic institutions” (Desmarais & Wittman, 2014). The strength of food sovereignty lies in its broad vision for social change. It is a vision that understands that the particular nature of each food

⁴ See the Nyéléni Forum for Food Sovereignty (2007) document for a broader framing of these principles.

sovereignty struggle in any given place is shaped by a range of factors including history, ecology, politics, and culture. While appreciating a wide diversity of struggles and social actors involved, importantly, food sovereignty also recognizes the connections among these place-based struggles and how they shape one another.

Key challenges to food sovereignty

The challenges to implementing food sovereignty are substantial and numerous. Since many of these are discussed in several contributions in this special edition I will highlight only the most obvious, but significant, ones.⁵ The first, is the sheer extent and complexity of change required. After all, food sovereignty is about social change writ large as it seeks to fundamentally transform societies through the vehicle of food and agriculture (Desmarais & Wittman, 2014). This transformation necessarily involves the redistribution of all kinds of resources, including power. Thus, food sovereignty is up against very powerful economic and political forces, which means that the on-the-ground struggles are intense, long, and often life-threatening.

The ongoing and numerous food sovereignty struggles for greater public engagement, social justice, human rights, and widespread democracy in many parts of the world are often met with violence or the threat of violence. The criminalization of resistance, state-sanctioned violence, or violence and murder carried out by private security firms, are among the ways that some powerful interests respond to those who advance food sovereignty. This means that developing deep, extensive, and effective solidarity mechanisms across sectors and geographical distances is one of the most important challenges of the Global Food Sovereignty Movement.

As food sovereignty gained traction it has led to a certain level of institutionalization, thus posing a different set of challenges (Bellinger & Fakhri, 2013; McKay et al., 2014; Wittman, this issue). Meanwhile, at the international level the Committee on World Food Security has opened up space for more civil society actors—including some who are voicing food sovereignty demands—and the UN Human Rights Council is working on an international declaration of peasants rights which is framed as the right to food sovereignty.⁶ These are significant advances, yet they do pose important challenges if the aim is to develop policies and programs truly based on food sovereignty principles. The first involves acknowledging and transforming the inherent asymmetrical power dynamics of these institutionalized spaces to enhance meaningful participation of those who are on the frontlines of food sovereignty. Second, most food sovereignty movements are limited in their capacity to participate effectively in these spaces given their obligations to be most active at the local and national levels. It may also take some time for them to develop the necessary skills and gain sufficient experience to be effective

⁵ This section is a revision of earlier discussions of the challenges (Desmarais 2012, 2014). Because all of them remain critical to the conceptualization and implementation of food sovereignty, I reiterate them here.

⁶ These are discussed further in other contributions in this compilation; see for example, Burnett, Murphy, McKeon, and Claeys.

in those spaces. Third, as food sovereignty is institutionalized, there is greater potential for usurpation and depoliticization by powerful interests who can reshape its meaning and dilute its goal of social transformation.⁷ The task then is to ensure constant vigilance of programs and policies that are introduced in the name of food sovereignty.

The role of research

Community-based researchers and academics can play an important role in advancing food sovereignty by engaging in critical research. There is a growing literature on food sovereignty but I can only mention a few recent works here. While some critique food sovereignty for its lack of clarity (Agarwal, 2014), complexity (Boyer, 2010), elasticity, populism and romanticism (Bernstein, 2014), others point to the need for food sovereignty to be and do more than it is now. For example, Burnett & Murphy (2014) argue that the Global Food Sovereignty Movement should develop “a clearer and more considered stance on international trade” given the importance of export production and international markets in benefitting the livelihoods of peasant and small-scale food producers (p. 1066). In their view, given new political opportunities offered by international dynamics and institutional shifts, a “broader food sovereignty-based trade campaign” might be possible if and when the Global Food Sovereignty Movement were to engage with the World Trade Organization rather than maintain their stance of disengagement with the multi-lateral institution (Burnett & Murphy, 2014, p. 1066). Clearly, more analysis is needed to determine what if any strategic engagement with the WTO is the best path to enabling the practice of food sovereignty. Research also points to the limitations associated with misinterpreting food sovereignty as being restricted to food self-sufficiency and/or local food production for local consumption (Wittman, this issue).⁸ The challenge is how to ensure that the research we do reflects the needs and concerns of those most marginalized, those who are on the frontlines of food sovereignty. How can we ensure that the research supports the food sovereignty struggles for social justice and a rights-based food system?

There is a real dearth of research on food sovereignty questions that could be of great use to the Global Food Sovereignty Movement as it engages with national governments and international institutions. More research is needed to address the following questions, among others:

⁷ An example of appropriation is the recent action (in May 2013) of the Parti Québécois, referencing La Via Campesina’s notion of food sovereignty, that officially launched a food sovereignty policy as a framework for all future decision-making on agriculture and food in Québec (MAPAQ, 2013). See Desmarais and Wittman (2014) for a discussion of this case.

⁸ Several contributions to this special issue discuss other important aspects of the WTO; see for example, Wise, Kripke, Margulis, and Zerbe.

- How are food sovereignty struggles expressed in particular locales and countries, and how are these connected? What social justice claims, food-producing resources, and environmental, productive, economic, social, and political rights are at stake in the struggles between food sovereignty and industrial agriculture?
- How does food sovereignty strengthen the human right to food, food security, and the right to a healthy and safe environment in particular locales? In what specific ways does food sovereignty lead to more just social relations of production and consumption?

For La Via Campesina, any solution that has the potential to succeed in addressing the food, environmental and socioeconomic crises must address wealth, dispossession, power, and politics. Through their gift of food sovereignty they are inviting us all to engage in research, debate, community-building, and collective action geared to turn it all around.

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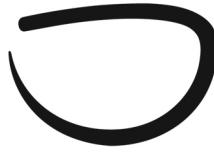
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Special Issue: Mapping the Global Food Landscape

Repeasantization, agroecology, and the tactics of food sovereignty

Blain Snipstal

Farmer, Member of the Rural Coalition and La Vía Campesina North America

When men take to buying and selling the land . . . they restrain other fellow creatures from seeking nourishment from Mother Earth . . . so that he, who had no land was to work for those, for small wages, that called the Land theirs; and thereby some are lifted up into the chair of tyranny and others trod under the footstool of misery, as if the Earth were made for a few and not for all (Winstanley, 1649, as cited in Berens, 1906, 70).

The struggle for popular control over food systems is present in all parts of the world today. As free trade agreements have come to include food as a major export-import commodity, strong social movements have emerged to challenge neoliberal policy and defend ecological family farming (McCune, Reardon, & Rosset, 2014).

From the dawn of the 21st century, we have seen and experienced at the global and local levels several severe world food crises, the advancement of global land grabbing and land speculation phenomena, the further entrenchment of the agribusiness model of agriculture and land/resource management, the repression and criminalization of peasant social movements, an increased forced migration of rural peoples, and the intensification of the global climate crisis. At the same time, food sovereignty, as a transformative methodology, political project, and social vision

introduced by the peasant social movement La Vía Campesina, has become the banner of struggle for social movements, civil society organizations, and grassroots groups the world over.

This social movement narrative includes the “radicalization” and “politicization” of agroecology as a comprehensive political, social and ecological proposal that is being constructed by peasant organizations within La Vía Campesina. From our experience we believe that agroecology is a concrete pillar in the construction of food sovereignty. As agroecology has been, and is being adopted by civil society organizations and scholars outside of La Vía Campesina, it is important for us to understand the nature of the “social movement experience” of agroecology to better understand how to support, ally with, and advance this movement-building process. Speaking from my experience as a black small-farmer, organizer, and youth based in North America, and as a co-representative of the Rural Coalition within La Vía Campesina, I will go into further detail about various dimensions of agroecological praxis—methodology, pedagogy, and the process of repeasantization in the rebuilding of the peasantry.

Within the social movement processes and methodologies of food sovereignty, there has been a gradual trend towards the articulation of a more ecological, transformative and politicized model of agriculture and food production that draws from the ancestral and cultural contributions of rural, peasant, and indigenous peoples. This model of agriculture is articulated as agroecology. This is not just a conversation about, or a process of, how food is produced; it is also a dynamic starting point for debating questions related to for whom and by whom food is being produced. It is a debate about the power dynamics of the industrial model, and the collective articulation of the institutional and social mechanisms necessary to support the small-scale, agroecological, family-based model of agriculture.

There are numerous tactics, methodologies, and strategies in the construction of food sovereignty. From the La Vía Campesina experience, agroecology is seen as a key pillar in the construction of food sovereignty. Agroecology is a movement to transform reality: it is about transforming our models of production and making material changes in the lives of the peasantry, rural peoples, and those who consume our food—society at large. In the struggle of agribusiness and capital against the small-scale, agroecological, and peasant model of food production, the analysis of civil society’s and scholars’ understanding of the peasant struggle for agroecology is paramount. This article seeks to give a brief glimpse into and popularize the social movement experience of agroecology and to situate it as part of the larger struggle to construct food sovereignty throughout the world.

What is agroecology?

The Green Revolution was a process that took a few years to be implemented and was accelerated afterwards, with the adoption of policies. We are in the same process with agro-ecology. We are

*planting the seeds, and after a certain time we begin to pick up the fruits that are the results of agro-ecology (Cited in Massicotte, 2014)*¹

There are many scholars, universities and NGOs that have various accreditation programs, academic programs and development programs built around the notion of agroecology, and in particular, “scaling-up agroecology”. By and large, these promote a limited view of agroecology, portraying it as a “more ecological” model of food production. They often focus their analysis on the “technological fixes” that a more ecological model of agriculture will bring, as compared to the current industrial model of agribusiness. This place of departure ignores the role that a political and social-organizing and learning methodology, combined with ecological tenets, can play in radicalizing one’s understanding of the current crisis of capital within agriculture. It also ignores the need for, and subsequent role of, agroecology as a political front and vision for an alternative to agribusiness—capital’s model of industrial agriculture (McCune, Reardon, & Rosset, 2014).

Just as agroecology is a model of ecological praxis, it is also a tool for social transformation, as it builds power and leadership and constructs infrastructure at the base. The latter is critical to allow agroecology to flourish and build food sovereignty. The base infrastructure projects that Vía Campesina organizations are working on include peasant seed systems and local seed banks; small-scale energy and irrigation systems; small-farmer cooperative and social organizations; resettlement and land access programs for youth; movement-based resource mechanisms that bring resources to small-farmer and rural communities; and the development of social, cultural, and ecological methodologies and technologies that will be at the center of agroecological knowledge into the future.

Another fundamental aspect of agroecology is the discourse around the progression of agricultural knowledge. Agroecology is a dialogue of the past with the future, of ancestry with youth. As a social movement proposal, agroecology—coupled with food sovereignty and agrarian reform—is a comprehensive proposal to society as a different way forward in agriculture, and as a process to heal the planet and humanity. On the one hand, as articulated by La Vía Campesina, agroecology is the accumulation of ancestral peasant knowledge and wisdom. On the other, it is the critical dialogue of this accumulated knowledge with modern ecological and natural sciences. In the middle is the critical role of youth in the development and evolution of this process: how is knowledge being transferred and evolving, and, how will this continue? This knowledge is fundamental, for it is the accumulation of the ways to exist harmoniously with the surrounding natural world, all the while producing food for people. This knowledge reflects a people’s culture and their ways of knowing, their wisdom and work. In this sense, agroecology is a process of continuously constructing a model of agriculture that can exist and co-evolve into perpetuity, while being in harmony with nature.

¹ This was quoted from an ELAA activist-student

In the past ten years, we have seen a phenomenal growth and radicalization of agroecology in small-scale farming and rural communities. Since 2004, many peasant movements—particularly those within La Vía Campesina and in the Americas—are constructing agroecological training courses, programs, and schools based on the history of struggle and resistance in their communities. These education processes—known in Spanish as *formación*—are built for and with youth and the rural communities of La Vía Campesina member organizations that are in the on-going processes of debate, dialogue, action and reflection. *Formación* is translated literally into English as training or formation, but it involves a deeper social vision of strategy that refers to the construction of a better human being through “critical reflections and actions” (McCune, Reardon, & Rosset, 2014). Coupled with the process of formation, La Vía Campesina organizations are creating various forms of *Formación Agroecologica*, or Agroecological Formation. This political evolution has created spaces where philosophical, pedagogical and ecological principles and methodologies are being constructed into comprehensive educational models to train movement activists who are using agroecology and food sovereignty as their frameworks for organizing and agrarian development (See Box 1).

Currently, there are roughly 40 different agroecological schools and training processes within La Vía Campesina, with the overwhelming majority of them based throughout the Americas and the Caribbean regions—and recently in Africa and Asia. The newest agroecological training school to sprout in the Americas is the Latin American Institute of Agroecology (IALA) in Nicaragua. After years of organizing and planning, this school opened in the Summer of 2014, coordinated by the Association of Rural Workers (ATC)—a La Vía Campesina member organization in Nicaragua. The school is located in the heart of Nicaragua’s coffee growing region, in a state called Matagalpa. In a recent newsletter, the IALA provided glimpses into their methodology and training approaches:

Another way that we tie our school into the quilt of agroecology being woven in Central America is by providing a technical and political education for rural young people. This agroecological education is broad, and includes topics such as biology, history, communication skills, ecology, nutrition, and sociology. These young Central Americans go on to become leaders in their communities, guiding the shift from chemical-dependent, monoculture production to agroecological, diversified farms (IALA, 2014).

This brief excerpt exemplifies a “social movement experience of agroecology” and highlights the nature of the organizing methodology being used in rural communities within the member organizations of La Vía Campesina in the region.

Together, these principles and methodologies are used to train and support the “militant-agroecological-educators” who are engaged in their peasant organizations and base communities, by encouraging their participation in collective action to transform their realities. The principles,

pedagogies and methodologies listed above are neither comprehensive nor exhaustive; they are meant only to provide a glimpse into the various efforts La Vía Campesina organizations are using as part of a “social movement experience of agroecology” to rebuild the peasantry, further our process of repeasantization, and make material advances in constructing food sovereignty and agroecology from the base outward.

Box 1: Principles and methodologies of *Formación Agroecologica*

Philosophical Principles:

- Education through and for Social Transformation
- Education through and for Diversity
- Education through and for Work and Cooperation
- Education through and for Rebellion (McCune, Munoz, & Reardon, 2014; Sosa et al., 2013)

Pedagogical Principles:

- Practice/Theory/Practice
- Education/Learning
- Diálogo de Saberes²
- Action-Based, Participatory, and Contextualized Research (Torres & Rosset, 2014)

We have also seen the development of agroecological principles and methodologies that—coupled with the philosophical and pedagogical principles shared above—form the basis to *formacion agroecologica*:

Agroecological Principles and Methodologies:

- Developing and maintaining ecological biodiversity
- Diversification; intensification of agrobiodiversity
- Soil conservation and recycling of biomass
- Use of renewable, local and on-farm resources
- Reduction of toxic and synthetic chemical inputs
- Social and ecological framework for transformation of reality, and building power
- A social and political project, movement, and vision for the transformation of reality
- Empowering the individual and collective
- Revalorization of peasant and local/regional seed varieties and seed systems
- Revalorization of tradition and ancestral peasant knowledge and wisdom (Sosa, Jaime, Lozano, & Rosset, 2013)

² As described in Torres and Rosset (2014, p. 4), Diálogo de Saberes is fundamentally a “dialogue among different knowledges and ways of knowing”.

The period ahead

There are clear and concrete challenges ahead as we enter the next phases of our struggles for food sovereignty. In the global North, we face the challenge of changing society at large. That is, we are confronting the agribusiness control of agriculture, and a dismantled peasantry—especially in the U.S., Canada and parts of Europe, where only small fractions of the population are engaged in food production. Therefore, agribusiness is well positioned to control the media, as well as dominant political and agricultural institutions and mechanisms. The extent to which peasant organizations are able to engage in the debates over how “healthy” food is produced—and do so in ways that intersect with other civil society organizations allied with food sovereignty and agroecology—will determine their ability to garner public support, which is critical. After all, one of the main tasks of a popular social movement is to win the hearts of the people, and to show that our struggle is theirs. Certainly, the struggle to construct food sovereignty and agroecology is not just the peasant struggle alone; it is a people’s struggle for democratic and autonomous control of their food system and the transformation of society.

Specifically speaking to the political, social, and agrarian context in the United States, the moment for agroecology and food sovereignty to flourish is now. The United States was built upon the plantation model of agriculture—which is the structural basis to the industrial model of agriculture we see around the world. This plantation model was built upon four pillars: the dispossession and forced resettlement of native Americans and Africans; the exploitation of enslaved peoples (Africans); the widespread use of monocultures; and the use of racism and white supremacy as the aids to create social justification and stratification of such a system. This unique historical context has created a unique place for agroecology and food sovereignty to flourish within the very groups who have been historically oppressed. Within the United States, this means that the focus and support of rural peoples of color and farmworker organizations are essential in the process of social mobilization and agrarian transformation. The future of agroecology and food sovereignty in the U.S. is inextricably tied to the success of those organizations and peoples.

Another important consideration is the degree to which peasant organizations and movements within *La Vía Campesina* receive support from allied organizations and networks. This support will be critical in the coming years, as the various economic, political, and climate crises continue in the face of the aggressive advancement of capital. It is important to see the efforts mentioned above as part of peoples’ struggles, because in order to truly support the development of agroecology from the base, it will take the collective efforts and support from both scholars and civil society at large. From transportation to finance, from academic institutions to trade agreements, every aspect of society is currently built to support capital’s industrial model of agriculture. To confront the alliance of capital and the state, we must build broad alliances that support base-building strategies and actions, such as:

- Allocating financial and human resources to peasant social movements and peasant organizations;
- Dedicating resources to the development of training centers, schools, and institutional programs based on “social movement experience of agroecology”, in partnership with allied organizations;
- Supporting the development of peasant seed systems, local seed banks, and local infrastructure projects being advanced by rural, farmworker and farm organizations within La Vía Campesina;
- Establishing research alliances to support and strengthen the research processes of peasant organizations and movements advancing food sovereignty and agroecology;
- Inviting peasant organizations and leaders to strategic conversations and meetings on agriculture being organized by civil society and scholar-activist communities;
- Developing financial mechanisms and legal-support systems geared toward creating and strengthening small-scale farming communities.

As we move forward, the struggles will only intensify with the continued imposition of capital in agriculture, degradation of the planet due to the industrial model, increased severity of hunger/poverty, and forced migrations of rural, youth and small-farming communities due to the reinvestment of capital in land. It is clear that food sovereignty and capitalism are destined for a clash. Fundamentally, agroecology and industrial agriculture (as a project of capital) cannot coexist, for the very existence of the industrial model of agriculture threatens life on this planet and the future of humanity.

As social movement actors, NGOs, and scholars, we must prepare ourselves for the struggles ahead. Everyone in this world is affected by the battle of the two opposing models of agriculture: that of agribusiness and its industrial production, and that of the small-scale and peasant-based agroecological model of production and organization. This ultimately is the struggle over different realities—the struggle to build food sovereignty.

Questions for further research

... in order to envision other modes of governance and development, it is essential to expand our theoretical framework as researchers and to listen to the voices of those who are already engaged in alternative practices and epistemologies (Massicotte, 2014)

As we continue to debate, dialogue, and construct the areas of agroecology, food sovereignty, and other concrete proposals for progressive agrarian transformation, there are several questions and proposals for further research to consider. First is the importance of basing research means

and ends on the ultimate strategic goal of constructing food sovereignty. As a result, the research methodology needs to be contextualized to the social, political, economic, and ecological dynamics of each “place of study”. Furthermore, the neo-liberal paradigm of “study subjects” that places the peasant and rural actor as the “object” of study must be transformed so that smallfarmers, peasant organizations, and food sovereignty activists are central protagonists of the research. In this sense, the goal of research geared to constructing food sovereignty and agroecology is liberation and social transformation, whereas in the neo-liberal (and agribusiness) model of research, the goals are profit and maintaining power. Below are several suggestions on areas for future research and academic support.

- *How is agroecology and food sovereignty being advanced, articulated, and expressed in the United States; and who is leading those efforts?* This point is critical, for within the historical context of U.S. agriculture, the twin pillars of racism/white supremacy and colonialism/dispossession of native lands and peoples were the basis to the development of industrial agriculture. As such, key focus needs to be placed on farmer of color organizations and farmworker organizations that are organizing within the context of food sovereignty and agroecology. The key question is: what kinds of support do they need to be successful?
- *How do food sovereignty and agroecology movements present alternative forms of land use, conservation and preservation?* There is often tension between the narrative of major environmental and land conservation groups. The latter argue that “conservation” land³ and agriculture do not mix and are antagonistic. The food sovereignty/agroecology narrative suggests that people can and do co-exist/co-evolve in harmony with nature; and that the agro-biodiversity we know is intimately tied to the historic management and knowledge systems of indigenous and rural peoples around the world. Obviously, this consideration will require a reframing or rearticulation of the concepts of “preservation” and “conservation”.
- *What are the financial and economic mechanisms, and markets needed to support the development of food sovereignty and agroecology?* How do these markets behave? By whom and for whom are they organized? What are historical and contemporary examples of markets based upon food sovereignty and agroecology? What are concrete examples of alternative⁴ financial and institutional mechanisms that support the development of food sovereignty and agroecology in various regions and countries?

³ Land that is not under any form of use or is limited to a small category of permissible uses.

⁴ By alternative, I am alluding to other forms of financial and institutional support outside of the traditional capitalist forms of financial and institutional support, i.e., high-interest loans, big-banks, conventional agricultural agencies, conventional credit circuits, etc.

- *What measures, programs and structures are being used by food sovereignty, agroecology, and social movement/peasant organizations to support the resettlement of youth, and the empowerment of women in the countryside, peasant organizations, and farming?* Within La Vía Campesina, there are many organizations and members like the Basque Farmers Union (EHNE – Bizkaia) with processes guided by youth and geared towards supporting them—i.e. re-peasantization. There are also various organizations in La Vía Campesina that have training programs and specific processes led for and by women. How do these initiatives compare to efforts from the state? What are the concrete victories and needs of these efforts, and how can scholar-activists support their development?

Links and Suggestions for further reading:

- The declaration of the first agroecology encounter in the United States hosted by the Farmworkers Association of Florida and the Rural Coalition, with La Vía Campesina North America: *Campesino-a-Campesino Encuentro de Agroecología*.
<http://viacampesina.org/en/index.php/main-issues-mainmenu-27/sustainable-peasants-agriculture-mainmenu-42/1757-statement-of-the-meeting-of-agroecology-farmer-to-farmer>
- The network of agroecology schools in Mesoamerica (website is in progress).
<http://ialamesoamerica.wordpress.com/>
- The Movement of Landless Rural Workers of Brazil (MST) has recently released an online library covering topics from Agroecology to Agrarian Reform to Rural Development. All the articles have been produced by or in conjunction with the MST. This link will take you to the section on agroecology.
<http://www.reformaagrariaemdados.org.br/tema/agroecologia>
- “Agroecological Formación in Rural Social Movements” by Nils McCune, Juan Reardon, and Peter Rosset. *Radical Teacher*, Vol. 98, (Winter 2014), Available at
<http://radicalteacher.library.pitt.edu/ojs/index.php/radicalteacher/article/view/71/42>
- “Agroecological Revolution: The Farmer-to-Farmer Movement of ANAP in Cuba” is a book documenting the agroecological transition that took place in Cuba after the fall of the Soviet Block. It highlights in greater detail some of the methodologies and principles mentioned in this paper. <http://viacampesina.org/en/index.php/publications-mainmenu-30/1448-agroecological-revolution-the-farmer-to-farmer-movement-of-the-anap-in-cuba>

- “Agroecological Formación in Rural Social Movements” by Nils McCune, Juan Reardon and Adriano Munoz (2014). Note: This article was written for the Nyelini Newsletter edition on Youth in Agriculture. <https://zcomm.org/znetarticle/agroecological-formacion-for-food-sovereignty/>

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- Sosa, B., Jaime, A., Lozano, D., & Rosset, P. (2013). *Agroecological revolution: The farmer-to-farmer movement of the ANAP in Cuba*. Ciudad de la Habana, Cuba: Asociación Nacional de Agricultores Pequeños (ANAP) and La Vía Campesina .



Section V

Food sovereignty

*Special Issue: Mapping the Global Food Landscape***From protest to policy: The challenges of institutionalizing food sovereignty**

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In response to the failure of current approaches to alleviate the linked challenges of global food insecurity and environmental degradation—many of which involve voluntary measures to improve agricultural efficiency and increase yield—grassroots actors have called for the re-regulation and state-based institutionalization of principles derived from the food sovereignty framework (Iles & Montenegro de Wit, 2014; Wittman, 2011). As articulated by international agrarian movements in the mid 1990s, these principles include ecological sustainability; distributive justice, ensuring a socially just allocation of resources (Agyeman & Alkon, 2011); and procedural justice, which involves “fair and transparent decision making processes that are adaptable to specific local conditions” (Loos et al., 2014, p. 357).

Strategically, food sovereignty movements pursue grassroots mobilization to demand that the state play an active role in developing policies that ensure the right of small-scale farmers, fishers, and indigenous peoples to exist as food providers and guardians of the global socio-ecological resource base. For most advocates, food sovereignty is about supporting both individual and community food security and a sustainable local and national agricultural sector through specific policy reforms. This mobilization has led to calls for the institutionalization of the right to food and food sovereignty at the international level, and in a growing number of instances, into national legislative public policy frameworks (Knuth & Vidar, 2011) (see Box 1).

These policy initiatives are diverse and include redistributive policies—such as agrarian reform and food security and social safety net programs; market interventions including the re-emergence of grain reserves; public procurement; government price floor programs; and

environmental regulation of harmful agricultural production practices. Many such mechanisms fall under the umbrella of food system localization, aiming to reduce distancing and increase accountability by reconnecting producers and consumers through participatory policy structures, democratically informed regulatory frameworks, and production models adapted to local socio-ecological conditions.

The food localization approach is challenged, however, by questions about the role of both local and globalized food trade and markets, and at what scale—or scales—food sovereignty can or should occur (Bernstein, 2014; Burnett & Murphy, 2014; Clapp, 2014a). The food sovereignty literature and most proposals by grassroots actors do not emphasize self-sufficiency as the primary pathway to food sovereignty, instead focusing on a broader range of supports to agricultural production systems to improve both environmental and food security outcomes, and advocating the democratization of decisions about agricultural policy and market integration. However, the idea that most food could or should be produced and consumed within a designated geographic scale—usually a community, region, or nation—is based on the expected positive social and ecological results associated with localization, including stability in the face of food price volatility. As a result, food self-sufficiency has emerged as a principle in most of the existing food sovereignty legislation, for example as is the case in Indonesia, Bolivia, Ecuador, and Venezuela. However, it is increasingly acknowledged that localization alone does not immediately translate into food autonomy, self-sufficiency, or food sovereignty; food insecurity occurs even in locations of food abundance (Clapp, 2014b; Sen, 1981). As well, cross-border trade for consumption needs and desires from bananas to coffee, as well as basic commodities like rice and soybean and maize, are unlikely to abate. As such, the institutionalization of food sovereignty requires “get[ting] beyond the binary” (Clapp, 2014b) of food security/food sovereignty or localization/globalization, by identifying adaptive and place-specific mechanisms for implementing the principles of food sovereignty and sustainability while considering practical contradictions and limits (Bernstein, 2014; Claeys, 2012; Hospes, 2013; Patel, 2009). In what follows, I briefly examine the institutionalization of food sovereignty principles in Ecuador, as part of its 2008 constitutional reform and the *Sumak Kowsay* or “Good Living” initiative, and Brazil, where food sovereignty emerges as part of the larger national Zero Hunger initiative.

Legislating food sovereignty at the national level

Ecuador

Ecuador’s 2008 constitution was one of the first to explicitly recognize the goal of food sovereignty in a national legislative forum that emerged in the larger context of the broad participation of civil society in the constituent assembly process. As part of widespread

grassroots opposition to the neoliberal era in Ecuador, civil society and grassroots actors called for the “return of the developmental state” using the discourse of national sovereignty (Clark, 2013). A *Mesa Agraria* was formed during the constituent assembly by a coalition of campesino and indigenous organizations, which contributed proposals for rural development, food security, environmental regulation, and agricultural policy couched in the language of national food sovereignty and support for domestic agricultural markets and distribution models.

Article 281 of the Constitution mirrors many of the items in the International Convention on Peasants Rights articulated by La Vía Campesina and in debate at the United Nations General Assembly (Edelman & Carwil, 2011; La Vía Campesina, 2009)—declaring that “Food sovereignty is a strategic objective and an obligation of the State in order to ensure that persons, communities, peoples and nations achieve self-sufficiency with respect to healthy and culturally appropriate food on a permanent basis.” In 2009, the Law of Food Sovereignty was passed to support a national rural development strategy that includes improving public infrastructure for storing basic food supplies and reserves, and targeting smallholder farmers to market to the public sector through institutional food programs. A subsequent Law of Popular and Solidarity Economy stipulated that 5% of the national budget for public procurement should be sourced from small-scale producer associations and cooperatives, and specifically targets schools and public daycares in a home-grown-school feeding model.

However, consistent tension exists between government support for oil and gas extraction initiatives—which provide revenues of up to half of the federal budget—and the principles of food sovereignty, which that support directly challenges. Oil and gas revenues, although couched in the language of economic sovereignty, are not invested in sustainable agriculture or domestic food security initiatives and are mainly utilized in public works, paying down the external debt and strengthening the export sector. Although local food procurement programs have been proposed at a pilot scale in some communities, almost no implementation has occurred between 2009–2014, mainly due to a lack of funding and infrastructure. Agrarian social movement leaders suggest that the focus on increasing agricultural exports, and the targeting of technical assistance and agricultural credit to export-oriented agricultural sectors such as aquaculture, banana, cacao, and palm, has detracted from the ability of the domestic agriculture sector to service national food security, with 35% of grains and almost 100% of wheat imported (Novoa, 2013). In response, agrarian cooperatives are working on consumer education campaigns to promote “healthy eating” and establish farmers’ markets in traditional agro-export centres. However, campesino leaders note that consumers are not willing to pay the higher costs of foods produced using agroecological production models, and some farmers who have experimented with organic production are returning to the conventional model. In addition, while legislation for food sovereignty exists in theory at the national level, municipal and state governments are the ones responsible for implementation, and as such initiatives to strengthen the position of small-scale farmers and more sustainable production models are uneven across the country. Overall, significant challenges contribute to a “distribution bottleneck” for domestic food self-

sufficiency resulting from the lack of coordination between government ministries and a lack of infrastructure in the small-scale farming sector to supply the domestic market (Clark, 2013).

Brazil

Brazil, a country most known as an agricultural export powerhouse, has also enacted some of the most advanced national frameworks for food security and food sovereignty through its Fome Zero (Zero Hunger) program. While Brazil's 1988 constitution doesn't explicitly mention food sovereignty, it does highlight the protection of economic, social and cultural rights, and in 2010 a significant amendment included the right to food. The federal Ministry of Agrarian Development (MDA) and the Ministry of Social Development and Fight against Hunger (MDS) formally launched the Fome Zero program in 2003. It includes a series of food security programs that involve public procurement of agricultural production from agrarian reform settlements for distribution to schools, hospitals, and other national food security initiatives (Rocha, 2009; Wittman and Blesh, 2015). Programs for agrarian reform, and agricultural credit targeted towards women, family farmers, and technical agroecological production are also included under the Fome Zero umbrella. With the expansion of the Fome Zero program under the Lula government (2003-2011), the right to food movement became more explicitly connected with rural movements for agrarian reform and food sovereignty. A 2006 Law on Food Security acknowledges that "the realization of the human right to adequate food and to food and nutritional security requires respect for sovereignty, that confer on countries the primacy of their decisions around the production and consumption of food." Finally, a 2009 Education law also stipulated that 30% of school meal programs must be sourced from the local family farm sector, with price premiums offered for products grown using organic and agroecological methods (Wittman, 2013).

Brazil's agrarian reform and public food procurement programs are perhaps the most well-developed examples of legislated food sovereignty mechanisms that link the challenges of rural development and land access with the needs of urban consumers and national food security. These programs have had some positive results in terms of supporting the marginalized family farm sector to transition to sustainable agriculture and access to secure local markets. Yet, almost a decade after implementation, uptake is still relatively small: less than 3% of family farmers in Brazil participate in the PAA public procurement program at the national level, and participant evaluations express concern about institutional complexity, patronage relations, and a failed distribution infrastructure, as well as the inability of the small-scale farming sector to meet food safety regulations and compete with larger scale producers to sell globally and nationally traded commodity items like beans and rice (Wittman & Blesh, 2015). Principally funded by the Ministry of Social Development, public food procurement programs can be viewed as compensatory social policy that aims to partially address the concerns of an aging family farm

sector, while large-scale agricultural investments are made in the agro-export sector.¹ Land inequity has not improved in Brazil despite 40 years of redistributive land reform, suggesting parallel processes of redistribution and re-concentration. And while poverty and food insecurity levels have dropped, these are primarily related to the dual strategy of an increase in social safety nets—i.e. Bolsa Familia—and increased employment due to economic growth, rather than from strategic investment in the family farm sector. Public procurement programs funded and implemented at this level do not require structural re-organization of the food system, they simply mediate market relations to meet social/ecological objectives at very small/localized scales, and thus are limited in their ability to achieve food sovereignty principles at a national scale.

Challenges to institutionalizing food sovereignty

Much evaluation is still needed on how these national-level policies and programs are implemented in their respective contexts, and to what extent they are addressing the principles and goals of the food sovereignty framework—that is, food security, equity, democracy, locally adaptive agricultural policies, and ecological sustainability. However, several challenges to the institutionalization of food sovereignty are immediately apparent. These include how to scale the implementation of food sovereignty principles up and out without losing connection to the principles of democratic engagement and connection to place, and how to confront an international trade regime that is systematically trying to remove support for domestic food and agriculture programs.

Public procurement programs supporting domestic social and ecological priorities have been targeted at the level of international trade negotiations. The WTO's Government Procurement Agreement (GPA) aims to “mutually open government procurement markets among its parties” (WTO, n.d.)—a market that is worth US \$1.7 trillion—directly challenging many food sovereignty-inspired initiatives to procure food from small-scale and local producers. Two approaches may allow discrimination in their favour while sidestepping the fears of trade disputes: attaching qualitative criteria such as ethical, sustainable, ecological, or denomination of origin to procured products, therefore making them “not like” imported products; and structuring procurement programs to conform with allowed public policy objectives, including specific environmental outcomes. Similarly, while provisions in GATT disqualified procurement to create public stocks that might be sold back into the market at a later date, these same provisions allowed for government procurement of products for government purposes without resale—

¹ Compare the Ministry of Agriculture's 2013–2014 budget of R136 billion (62 billion USD) which supports low interest loans, grants, and capital investment projects for agribusiness with the Ministry of Agrarian Development budget for family farm sector support of R39 billion for the 2013–2014 season for operating loans, crop insurance, agricultural extension, home-grown school feeding, and other public nutrition programs.

including school lunch programs and meal programs at public institutions. These programs may be allowed under current trade rules, but under conditions that are still contested and uncertain (MacRae, 2014).

What's next: Multi-scalar approaches?

Food sovereignty is ultimately about changing and decentralizing power in the food system—reducing the influence of the global and corporatized food regime and providing a foundation for diverse, sustainable, and democratic food provision systems across the globe. Mechanisms for institutionalizing food sovereignty include *autonomous and localized* initiatives – such as farmers’ markets and Community Supported Agriculture, buying clubs, local food policy councils, land occupations, seed sharing and seed banks, agroecology schools, and farmer-to-farmer training networks. These autonomous initiatives are supported—and in some cases challenged—by *state actions* including legislative reform and state support for the development of public procurement programs targeting small-scale and sustainable agriculture. Finally, the conversation on institutionalizing food sovereignty is taking place in the *global policy arena*, including at the UN Committee on World Food Security and in international trade dialogues. These fora provide for the greater participation and access of global civil society to global governance discussions, and result in the expansion of dialogue on the distribution of rights and responsibilities for sustainability in the global food system—both “up” to the WTO and other global governance fora, and “down” into regional and national legislative frameworks. However, the globalization of agricultural standards and regulatory regimes has done much to dispossess the rights of local communities, who are rightly suspect of attempts to ‘globalize’ a regulatory framework—even one based on food sovereignty principles. The internationalization of progressive standards such as organic, fair trade, and environmental certifications, has offered some ability to target and support localized transformations in production systems (c.f. Higgins, Dibden & Cocklin, 2008a), but so far has had little effect in redistributing power and resources in the global food system—which is after all the ultimate goal of the food sovereignty framework.

Ultimately, the final responsibility for moving from international dialogue to structural shifts in the distribution of power in the food system remains at the national and local levels, where ‘sovereignty’ can be territorialized and enacted. As such, policies and programs designed to institutionalize food sovereignty principles will look very different in places like Indonesia and Venezuela—net food importers seeking to increase food self-sufficiency—as compared to Ecuador and Brazil, net food exporters seeking to strengthen the family farm sector while improving domestic food security outcomes. Future research on the institutionalization of food sovereignty will need to navigate the multiple definitions of and pathways towards food sovereignty, and assess the extent to which particular initiatives or programs enable power shifts in the agricultural sector.

Box 1: Legislating Food Sovereignty

Country	Year	
Peru	2002	Decree No. 118-2002 PCM, establishing the Multi-sectoral Commission on Food Security, 2002
Argentina	2003	Law 25.724 on the National Programme for Food and Nutrition Security, 2003
Guatemala	2005 2006	Decree No. 32-2005: National Food and Nutrition Security System. Agreement No 75/06, Regulation to the Law on National System on Food and Nutritional Security
Ecuador	2006 2008	Law on Food and Nutritional Security, No. 41, 2006; Law on Food Sovereignty, Official Registry No. 583, 5 May 2009 <i>Constitution</i> : Article 13 “Persons and community groups have the right to safe and permanent access to healthy, sufficient and nutritional food, preferably produced locally and in keeping with their various identities and cultural traditions. The Ecuadorian State shall promote food sovereignty.”
Brazil	2006 2010	Law 11.346: the realization of the human right to adequate food and to food and nutritional security requires respect for sovereignty, that confer on countries the primacy of their decisions around the production and consumption of food Decree: promoting sustainable agroecological systems for producing and distributing food, that respect biodiversity and strengthen family agriculture, indigenous peoples, and traditional communities that ensure the consumption and access to adequate and healthy food, respecting the diversity of national food cultures . . . incorporating into State policy respect for food sovereignty and the human right to adequate food.
Nepal	2008	<i>Constitution</i> : Article 18.3 “individual right to food sovereignty”
Venezuela	2008	Law: Organic Law of Agro-food Security and Sovereignty
El Salvador	2009	Decree 63 establishes the National Food and Nutrition Security Council (CONASAN).
Bolivia	2009	<i>Constitution</i> : Article 16: All people have the right to water and food, and that the state has the obligation to guarantee food security (Article 16), but that the negotiation and ratification of international treaties shall be subject to the principles of food security and sovereignty for the population (Article 255). In specific reference to the principle of subsidiarity – the right of decisions to be made at the appropriate level of community –, and in explicit response to the contradictions of a resource/energy extraction led model of development, Articles 300/302 indicate the “Exclusive competence of regional and municipal governments to govern alternative and renewable energy projects to preserve food sovereignty”. Finally, Article 407 indicates that state development policy will prioritize the production and consumption of food produced in Bolivian territory to guarantee food sovereignty and security
Nicaragua	2009	Law No. 163: Food and Nutritional Sovereignty and Security
Indonesia	2012	Food Law 18/2012: “Food Security in Indonesia has to be based on local food availability and food sovereignty; self-sufficiency has been defined as at least 90% self-sufficient

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Section V

Food sovereignty

*Special Issue: Mapping the Global Food Landscape***The hefty challenges of food sovereignty's adulthood—
Synthesis paper**

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The three articles in this section reflect a broader shift that is taking place in the debate on food sovereignty. After almost two decades since its inception, the term—which is also a “counter-narrative”, a “mobilizing tactic”, and a “political agenda” (Desmarais, this issue)—has gained significant leverage as an alternative paradigm to industrial agriculture. A sign of the term’s maturity may be the growing consensus shared by critical food studies scholars and activists about its potential as an alternative paradigm. At the same time, food sovereignty’s adulthood is rife with complex challenges. At stake is no less than turning a dream born in the margins into a concrete, viable reality for the global agrifood system. This article focuses on three challenges faced by the food sovereignty movement today: (1) operating across multiple scales; (2) maintaining internal democratic practices as the movement continues to grow and become more complex; and (3) building cross-sectoral alliances to foster broader social change.

Operating across multiple scales

As Desmarais points out (this issue), one of the key features of the Global Food Sovereignty Movement is that it recognizes the particular histories and geographies of the struggles that are part of it while at the same time providing a common ground and shared vision. Such a vision—summed up by the three principles indicated by Wittman (this issue) of ecological sustainability, distributive justice and procedural justice—ultimately seeks to change the asymmetrical power

relations in the global agrifood system. However, the diversity of struggles, strategies, and tactics of the movement make it very challenging to develop a framework for action that enables coherently integrating actions taking place at various issues, levels and scales.

Through her analysis of the cases of Ecuador and Brazil, Wittman points to some of the underlying difficulties surrounding the implementation of food sovereignty. While she acknowledges that the norms and policies created in both countries to achieve the explicit goals of food sovereignty have indeed been important to advance the rights of small farmers, she concludes that several obstacles still need to be overcome before more significant changes will be seen on the ground. The complex challenges food sovereignty faces are evidenced even in contexts where it has gained significant traction, where national norms are often not met with local capacity: local problems, such as lack of basic infrastructure for storage or small-scale farmers' inability to meet food safety regulations, are compounded by regional and national problems, such as low demand for agroecological products, insufficient budget allocation, persisting patronage relations, and competing development strategies amongst government agencies.

Besides the problems involved with the domestic institutionalization of food sovereignty, a further issue the movement needs to tackle is the way in which national actions are related to global ones. One of the most pressing questions in this regard is how trade should be conceived from a food sovereignty perspective (see articles on trade, this issue). For La Vía Campesina, food sovereignty is a radical response to the inclusion of agriculture in neoliberal trade negotiations and the stark inequalities and power asymmetries that structure the global agricultural trade system. In opposition to this system, food sovereignty activists have promoted ecologically and socially sound localized agrifood systems organized by rural communities with the support of the state. Nevertheless, it is not sufficiently clear from this position whether this entails rejecting international trade altogether, or whether there is still room for trade under a different set of conditions.

This discussion on trade points to the broader concern of whether domestic gains achieved by food sovereignty activists—such as agricultural policies that are more responsive to the needs and interests of small-scale farmers—contribute to or contradict broader struggles of economic justice staged by the movement at the global level. Undoubtedly, domestic policy instruments continue to be relevant for protecting small farmers' income in the global North and the global South. However, these national policies can also undermine small farmers' livelihoods elsewhere.

In an effort to move beyond the localization/globalization binary (Clapp, 2014), the “multi-scalar” approach suggested by Wittman's article provides a starting point to think about transnational relations in the global agrifood system and to unpack what “sovereignty” means for food sovereignty activists (Edelman, 2014; Schiavoni, 2014). This approach—similar to concepts like “variable-scaled reflexive governance” (Marsden, 2013)—may allow seeing trade, and more generally national agricultural policies, not only as a zero-sum game between national producers but as the result of a complex interplay of a wide range of actors across local, regional,

national and global levels in which positive-sum outcomes are possible. Furthermore, this approach is well-equipped to analyze the diverse strategies used by the movement at a plurality of social and political scales in order to counter the dominant global capitalist agrifood system, which operates as well through multiple, overlapping scales and authorities (Ayres & Bosia, 2011).

Internal democracy in a global social movement

Along with the difficulties of operating across multiple scales, a second challenge of the global food sovereignty movement is to build a cohesive organizational structure that continues to grow in members and complexity without ceasing to uphold its internal democratic practices. The movement cannot be pinned down to a single social movement organization—such as La Vía Campesina—as food sovereignty has become the “rallying call” for diverse poor and marginalized actors across the global South and the global North (Anderson & Bellows, 2012; Sage, 2014). However, it is still relevant to explore the extent to which its claims for procedural justice and internal democracy continue to hold as it has evolved over time. Two ongoing tendencies indicate that the movement may be responding effectively to this challenge and moving in the right direction.

One is the process of training and capacity building of its base membership (Snipstal, this issue). The agroecological programs started by La Vía Campesina long ago have enabled building leadership from the bottom up, and fostering a political culture of critical thinking and active participation amongst its members. Agroecological schools, Snipstal argues, are not merely about learning a “more ecological model of food production”, but rather also about “build[ing] power, leadership and infrastructure at the base” (see also Gliessman, 2013). The philosophical principles and methodological tools that comprise these educational processes, such as “action-based”, “participatory”, and “contextualized” research, are in line with this idea.

While a systematic assessment of the scope and impact of this process of agroecological *formación* is required, it may be argued tentatively that such a process is an essential antidote against the movement turning into an ossified, patronage-driven bureaucratic structure. The fact that participants themselves have recently addressed previously overlooked issues—such as gender imbalances—in the movement (Desmarais, 2007; Martínez-Torres & Rosset, 2010), means that these pedagogical processes are serving, at least in part, to increase the members’ reflection on the movement they are part of. Creating the conditions of a stimulating democratic culture in any large movement requires both time and providing concrete spaces for deliberation and critical engagement, which are in turn key premises for political creativity and innovation (Heller, 2012). From Snipstal’s article it seems that the movement is doing precisely this.

A second tendency demonstrating procedural justice and positive direction in the movement is the ability to maintain a strong chain of accountability in its decision-making processes. This is particularly important as the movement gains political space within national

and international governance structures, wherein the risks of depoliticization and meaning cooptation are high (Desmarais, this issue). When, as a result of increasing success and influence, social movements experience rising expectations from members and the general public, a tension between inclusive engagement and organizational efficiency usually emerges (Choi-Fitzpatrick, 2015). From the positive experiences of the 2007 Nyéléni Forum for Food Sovereignty (Martínez-Torres & Rosset, 2010; Schiavoni, 2009), and the more recent deliberations at the Committee on World Food Security (McKeon, this issue) and the Civil Society Mechanism (Rahmanian, this issue) it seems that the global food sovereignty movement has been able to strike an adequate balance. The decision-making mechanisms, notwithstanding all the contentious politics surrounding them, have continued to be responsive to the base while generating key political outcomes.

At the same time, due to the significant variation in the movement's participants across regions and contexts, tensions around issues of representation and internal differentiation persist (Boyer, 2010). To be sure, distinct class, ideological, organizational and cultural perspectives will continue to determine the power dynamics and politics within the movement itself (Baletti et al., 2008; Borras, 2010; Edelman, 2008).

Building broader alliances

A third challenge of the global food sovereignty movement is to effectively unite with other sectors of society so as to foster broader social change. Even though the movement emerged as a “transnational agrarian movement” (Borras, Edelman & Kay, 2008) with a specific peasant-oriented agenda, its radical approach to the current corporate food regime (Holt Giménez & Shattuck, 2011) conceived a food sovereignty project that is about “social change writ large” (Desmarais, this issue). In fact, after the 2007 Nyéléni Forum, in which over 500 grassroots leaders from nearly 100 countries participated (Schiavoni, 2009), the movement extended across the world (Sage, 2014). Although there is an ongoing discussion around the soundness of its conceptual foundations—criticized due to its lack of specificity (Bernstein, 2014; Edelman, 2014; Patel, 2009; cf. McMichael, 2014)—it has been recognized that the movement's strategic framing of the food sovereignty discourse has encouraged previously nonexistent linkages with other social movements that have similar radical goals (Shawki, 2012). A looser “transnational grassroots movement”—to use Batliwala's (2002) term—might be emerging out of these linkages, with new types of international solidarity networks and innovative forms of transnational partnerships.

What distinguishes transnational grassroots movements from other forms of transnational citizen networks is that their “locus of power and authority lies and is kept with the communities themselves rather than in intermediary actors” (Edwards quoted in Batliwala, 2002, p. 407). This strong connection to grassroots constituencies provides this kind of movement with a high degree of legitimacy and credibility that facilitates reaching out to other sectors of society.

However, bringing together particular struggles entails building effective “meso-mobilization” capacities (Gerhards & Rucht, 1992) by means of which joint understandings and “collective action frames” are developed (Benford & Snow, 2000).

For some observers, the discourse of food sovereignty has been instrumental in this regard, as it has elaborated a worldview “beyond capitalism” in which “autonomous food spaces” are plausible (Wilson, 2012). Conversely, others think that alternative common frames like “ecological public health” (Lang, 2010) might be more appropriate to attain a wider congruence of interests beyond a “producer-rights” agenda (Clapp, 2014). From this point of view, the language of food sovereignty might inadvertently distance people that may in fact share the vision of decommodifying and reterritorializing food systems. Whether the core framing concept is food sovereignty or not, what is crucial is that it allows formulating a structural analysis of the global agrifood system while at the same time providing a narrative that enhances social mobilization and broad political engagement (Sage, 2014).

Beyond the issue of appropriate collective framing, some analysts (Bernstein, 2014; Brass 2002) remain skeptical of the food sovereignty movement’s ability to develop a feasible program of social change. In this line of thought, ethnic, cultural, and especially class differences make it difficult for such a heterogeneous group—composed of actors as distinct as farmworkers, urban consumers and petty commodity producers from the global North and the global South—to coalesce around a single movement that seeks to transform the world food system. Against this kind of critique, the continuing strengthening of multi-sectorial and multi-class coalitions within the global food sovereignty movement signals that the construction of collective transnational political identities (keeping in mind the diversity) is indeed possible and is in fact enabling new forms of social resistance and transformation (Snipstal, this issue; see also Beverley, 2004; McMichael, 2014).

The character and shape of the new partnerships taking place within the food sovereignty movement amongst grassroots organizations and other actors—including NGOs, private and public institutions, scholars and researchers, and state and multilateral agencies—is also an essential aspect of the construction of alliances. Snipstal (this issue) points to the various areas in which fruitful collaborations are in fact being developed to enhance the movement’s educational and infrastructural capacities. Furthermore, Desmarais (this issue) also reflects on the importance of strong solidarity links, particularly in supporting groups that are developing their struggle in life-threatening contexts. She also argues that researchers and academics play an important role in the movement by engaging in critical research—although, as Edelman (2009) notes, this is a complex relationship that needs to be carefully defined so as to generate positive synergies.

Overall, the current multidimensional crisis (Fraser, 2014) offers a unique opportunity for the food sovereignty movement to make broader alliances with people that do not necessarily fit the profile of a militant activist (Shawki, 2012). Recent debates on broad issues like rising income inequality (Piketty, 2014), ecological sustainability (Weis, 2010), and nutrition (Scrinis, this issue), provide grounds to think that food sovereignty could potentially engage in a fruitful conversation with different sectors of society.

Conclusions

Food sovereignty is about building a different agrifood system. Currently, the global food sovereignty movement is growing: it consists of local, national, and regional expressions that have concrete effects in peoples' lives. In some countries, serious attempts to institutionalize food sovereignty into national policy are underway; at the global level, it is influencing a shift in the norms and terms of the debate. As it moves forward into adulthood, the present and future challenges of food sovereignty are immense. The first task is to fully understand the challenges at hand. While I have briefly discussed only three of these—operating at multiple scales, maintaining internal democracy, and building broader social alliances—many others remain unaddressed.

There is a need for extensive research—especially the kind that dares to ask difficult questions. For example, more research is needed on what food sovereignty “alternatives” look like on the ground, something which might entail—among other things—systematizing the highly diverse existing experiences in terms of actors, practices, processes and norms, and their material and ideological effects. Another area of research relates to the theoretical and empirical study of food sovereignty's approach to “markets”, understanding what this means for the broader hegemonic system. Finally, more research must study the complex and evolving relationship between social movements and state authorities in national contexts (like Ecuador, Bolivia, Nicaragua, Mali, Senegal, Venezuela and Nepal) where food sovereignty is being translated into national policy (Beuchlet & Virchow, 2012; Schiavoni, 2014).

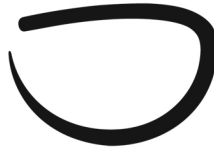
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Special Issue: Mapping the Global Food Landscape

Section VI

Genetic resources and agricultural biotechnology

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Genetically modified crops have been a lightning rod in debates over the future of food and agriculture over the past two decades. The debate has sparked critical questions about the potential role for science in addressing hunger and in rural development. Corporate actors, with a strong interest in this debate, have actively sought to secure their rights over biotechnology while at the same time promoting the potentials of agricultural biotechnologies. Critics have been equally vocal in resisting and debunking those narratives, seeking to preserve natural plant diversity and ensure open access to plant genetic resources.

Noah Zerbe shows that control over the world's plant genetic resources has shifted through from public to private hands with the advent of agricultural biotechnology. He argues farmers and communities, whose agricultural work builds on thousands of generations of peasants who have been stewards of seeds, have a moral claim to those rights and should be given more voice in policy. Looking at the two decades since GMOs have been widely planted on a commercial basis, Taarini Chopra makes the case that they have failed to meet the promises while raising a host of problems. Instead of relying on a false narrative provided by industry, she argues that we need to learn instead from the situated experience of farmers in their fields. Matthew Schnurr takes a closer look at attempts to promote GMOs in Africa, and shows that

science and politics are intermingled in complex ways that are difficult to disentangle. He asks whether GM crops are always the best approach to solving certain agricultural problems.

The papers highlight the persistence of binaries within these contexts. As Wesley Tourangeau and Chelsea Smith make clear in their synthesis paper, the narrative that emphasizes the value of modern scientific plant breeding has the effect of devaluing farmer's contributions to agricultural biodiversity, a bias that sorely needs correcting.



Section VI

Genetic resources and agricultural biotechnology
Special Issue: Mapping the Global Food Landscape

Plant genetic resources in an age of global capitalism

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Early in the 20th century, a scramble for the world's genetic resources was sparked by Nikolai Vavilov's articulation of the geographic centers of origin for major cereals and other crops. European and American governments sent expeditions to remote corners of the world, all in an effort to catalogue and collect the planet's genetic resources. Trekking through remote forests in Africa, Asia, and Latin America, and supported financially by the state, expeditions collected samples that would be used to improve the genetic qualities of maize, soy, and countless other crops, adding millions of dollars in value to domestic agricultural production (Saraiva, 2013).

Today, a new race to control the world's plant genetic resources is well underway. Unlike the previous eras, this race is dominated by private rather than public interests, and operates at the genetic level rather than the level of the plant. In this paper, I sketch the global terrain of ownership of plant genetic resources, focusing on the key international agreements governing the legal landscape. I briefly outline the implications of this system, asking how the global terrain conditions struggle over conservation and agricultural biodiversity, access and benefit sharing, and community and farmers' rights. I conclude by raising several areas for further research.

The policy context

The inclusion of the Trade Related Intellectual Property Rights (TRIPs) Agreement as part of the broader agreement establishing the World Trade Organization (WTO) in 1995 marked a fundamental turning point in our understanding of the ownership rights in genetic materials.

Prior to TRIPs, plant genetic resources were generally excluded from patent protection. But under the TRIPs Agreement, all WTO Member States were obligated to provide patents or *sui generis* protection for new plant varieties.

It is difficult to understate the importance of the TRIPs Agreement in a global context. Before TRIPs, to the extent that an international consensus existed, plant genetic resources were generally viewed and managed under the principle of *res communis* as the common heritage of humanity. Even when individual plants were viewed as private goods, the genetic code of the plant was not. Indeed, the rights of researchers to use plants to develop new seed lines and the rights of farmers to save and replant seed, referred to as breeders' and farmers' privileges respectively, were incorporated into the 1978 International Union for the Protection of New Plant Varieties (UPOV) Convention. In this respect, TRIPs represented not just an extension of property rights into a new arena, but a fundamental re-articulation of the balance of competing rights claims among investors and patent holders, researchers and plant breeders, and farmers and rural communities, sharply in favor of the former and to the detriment of the later.

Today, several key international agreements govern the legal landscape in the area of intellectual property rights. While the TRIPs Agreement remains the most important and most enforceable, the Convention on Biological Diversity (CBD), the Nagoya Protocol on Access to Genetic Resources, and the Fair and Equitable Sharing of Benefits Arising from their Utilization (the Nagoya Protocol), the FAO's International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), and the International Union for the Protection of New Varieties of Plants (UPOV) all speak to the rights of patent holders, farmers, researchers, and communities. Collectively, these agreements establish a broad but sometimes contradictory framework governing the protection of intellectual property rights in the area of plant genetic resources (See Table 1).

The tensions between these agreements represent an important site of engagement for civil society. The holders of intellectual property rights most forcefully assert their ownership claims through the WTO. But the rights of plant breeders to use genetic materials to develop new seed lines, the rights of farmers to save seed from season to season, and the rights of communities to benefit from the use of genetic materials under their stewardship, are also worthy of development, clearer articulation, and greater enforcement. Indeed, this is an important part of the struggle against enclosure of the global ecological commons (Friedmann, this issue). The default assumption that the ownership rights of the private property holder should necessarily trump the claims of competing rights by researchers, farmers, and communities needs to be challenged. But equally importantly, the mechanisms of protecting and enforcing competing rights claims need to be more clearly articulated. The rights of patent holders reflect broader power inequalities in the global economy. It is therefore not surprising that such rights are more frequently and more forcefully protected. The inclusion of other rights claims in international agreements like the Nagoya Protocol and the ITPGRFA—however imperfect those agreements may themselves be—represents an important victory, particularly insofar as they impose clear requirements intended to limit the scope of biopiracy.

Table 1: Comparison of major international agreements addressing ownership of plant genetic resources

Agreement	Entry Into Force	Status of Patent Holder Rights	Status of Plant Breeders Rights	Status of Farmers Rights	Political Dynamics
WTO’s Trade Related Intellectual Property Rights (TRIPs) Agreement	1996	20-year protection for new plant varieties; Provisions for sui generis protections.	Not included	Not included	Enforceable through the WTO’s trade dispute settlement mechanism. Contains no provision subsuming its authority to other agreements.
Convention on Biological Diversity (CBD)	1993	Any agreement must “recognize and [be] consistent with the adequate and effective protection of intellectual property rights.” (Art. 16.2)	Not included	Benefit sharing is mandated, with exact terms negotiated between governments and interested parties.	Formally replaced the common heritage doctrine with the principle that genetic resources were subject to national sovereignty.
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity	2014	Facilitates the fair and equitable sharing of benefits arising from the utilization of genetic resources to incentive the conservation and sustainable use of biodiversity.	Not included	Mandated and to be implemented through national legislation.	Supplementary agreement to the CBD
FAO’s International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	2004	Limits patent protections for varieties developed from genetic stock contained in the multilateral system (MLS).	Implied in right to use and exchange seed, subject to limits based on requirement for access and benefit sharing.	Recognizes farmers’ right to use, save, sell, and exchange seed subject to national law.	Article 12.3.d limits intellectual property claims in a manner that could be at odds with TRIPs protections.
International Union for the Protection of New Varieties of Plants (UPOV)	1961 (rev. 1972, 1978, 1991)	Establishes criteria for protection of new plant varieties, which must be: (1) novel; (2) distinctive; (3) homogenous; and (4) stable. Specific protections outlined under national legislation.	1978 version permitted use of protected varieties for the non-commercial development of new plant varieties. Exemption was limited in 1991 version.	1978 version permitted use of protected varieties for non-commercial applications (e.g., subsistence farming). Exemption was limited in 1991 version.	Exemptions under earlier versions have gradually been limited under more recent revisions, which falls closer in line with the TRIPs requirement for 20-year monopoly protection.

At the same time, such agreements are necessarily limited in two key respects. First, they all include broad language limiting their enforceability. Indeed, the Preamble to the ITPGRFA affirms that “nothing in this Treaty shall be interpreted as implying in any way a change in the rights and obligations of the Contracting Parties under other international agreements,” while simultaneously asserting an understanding that this limit “is not intended to create a hierarchy between this Treaty and other international agreements” (ITPGRFA, 2001). The other international agreements in this area all contain nearly identical language in their preambles. Interestingly, only the TRIPs Agreement does not offer such concessions, suggesting a clear hierarchy in the enforceability of such rights claims.

Second, the agreements do not go far enough in specifying the scope of protections afforded the rights claims of competing interest. Article 9.3 of the ITPGRFA provides that Contracting Parties acknowledge the importance of farmers in protecting biodiversity and maintaining plant genetic resources, but includes language noting that “Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate” (ITPGRFA, 2001). The Treaty’s Benefit Sharing Fund no doubt provides important material benefits for many farmers. But the right of farmers to save, develop, and re-propagate seed remains defined only in the abstract, subject to international limits, and protected only at the national level. And as Winter (2010, p. 247) observes, the contradictory obligations under TRIPs and the ITPGRFA effectively mean that “Article 9.3 has no functional effect.”

Why should we care?

There are several reasons why the struggle over farmers, community, and breeders rights remains an important arena for political contestation. First, there is real economic value in plant genetic resources. Innovations in both conventional breeding and agricultural biotechnology—and everything in-between—depend on quality source gene lines. While recent developments in biotechnology open the possibility of creating synthetic genetic material in the laboratory, the vast majority of genetic stock available to plant breeders comes from existing resources and gene lines.

The nature of genetic resources makes it difficult to calculate a precise economic value, but it’s clear that there is one. The Food and Agriculture Organization (2002), for example, observed that the introduction of genetic material from a wild relative of the tomato plant contributed an estimated \$250 million per year to the value of tomato production in the State of California alone. Improved cultivars developed primarily through the introduction of new germplasm in the United States were responsible for 50 percent of the increased corn yield, 85 percent of the increase in soybean yields, 75 percent of the increase in wheat yields, and 24 percent of the increase in cotton yields in the United States between 1939 and 1978 (Day-Rubenstein, Heisey, Shoemaker, Sullivan, & Frisvold, 2005, p. 5). Further, much of the

consolidation of the seed industry over the past twenty years (Howard, 2009) was driven by an effort to garner access to genetic material and techniques owned by the subsidiary, again suggesting a significant economic value for plant genetic resource stocks.

Second, extensive efforts have been undertaken at the global level to collect and catalogue plant genetic resources, often securing them in massive gene banks, it is clear that *ex situ* collections cannot replace *in situ* conservation in farmers' fields. Key elements of crop genetic resources are rooted in the agro-ecological system and therefore cannot be captured or stored offsite. Community rights provide an important mechanism to incentivize and support *in situ* conservation efforts.

Finally, there is a strong moral claim to be made in support of farmers' and community rights as an acknowledgement of the historical contribution of peasants and farmers who selected and bred crops for generations. The rich diversity of plant genetic resources available to breeders today is the direct result of the longstanding effort of generations of farmers. This effort deserves recognition.

This ethical argument also highlights the problematic nature of our terminology around the seed. In the literature, varieties developed by farmers over generations are usually referred to as "traditional" or "landrace" varieties, suggesting that innovation is done, and we're stuck where we are now. This is contrasted with the "modern" or "improved" varieties developed by plant breeders in laboratories. This language misrepresents, often in a very problematic manner, the actual performance of such crops in the field. It simultaneously advances technical "solutions" to poverty, hunger, and malnutrition—problems that are fundamentally political not technical and thus evade technical solutions (Chopra, this issue). While "modern" varieties are more input-responsive and thus can out-perform "traditional" varieties under ideal growing conditions found in test fields, in the real world conditions of most smallholders in the developing world, traditional and open-pollinated crops frequently provide a more stable yield under less-than-ideal growing conditions.

The path ahead

While competing rights claims clearly need to be reconciled, moving forward in the longer term requires a more fundamental rethinking of both the policy framework and the values that underlie it. As Devlin Kuyek (2001) writing for GRAIN noted, strong intellectual property rights often serve to undermine innovation, restricting the flow of germplasm, eroding genetic diversity, and stifling research. Alternative frameworks for intellectual property protection, including a nascent open source seed system modelled on the creative commons license and the open source software movement, offer interesting avenues through which the state-led models of competing rights claims may be circumvented (Kloppenber, 2014).

Given the increased ability afforded by biotechnology to identify and transfer specific plant traits or properties, the value of plant genetic material—and the contested claims over control of such materials—is only likely to increase in the future. At the same time, broader global changes could fundamentally restructure the nature of plant breeding and with it the struggle for control over plant genetic resources. The gradual withdrawal of the public sector from agricultural investment in general—and plant breeding in particular—has created a situation in which orphaned, open pollinated crops are neglected, while billions of private dollars are invested into patented varieties of corn, wheat, cotton, and soy. While philanthropic investments have offset some of the decline, inconsistent funding through private grant dollars is no replacement for sustained investment by the public sector.

Even if it could be sustained, *philanthropcapitalism* is no replacement for the state. Rather, philanthropcapitalism—rooted as it is in the broader context of global neoliberalism—depends promotes and on the hollowing out of the state and the subjugation of public policy to the business image and to the motive of private profit (Thompson, 2014). Public plant breeding efforts were recognized into public/private partnerships that render the intellectual property embedded in seed private and render the farmer a consumer rather than a producer of new seed technologies.

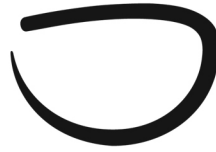
Going forward, synthetic biology could obviate the need for the raw genetic materials in the plant breeding processes, but competing use claims, particularly around the rights of farmers to save and replant seed, would remain. The higher cost of patented seed will likely reinforce the global two-tiered farming system in which large-scale commercial producers benefit from the latest technologies while subsistence farmers and small-scale commercial producers do not, generating greater inequality, particularly in developing countries.

All of this suggests several avenues for further research. Could a system of voluntary, open-source plant breeding replace declining public investment in agricultural research? How will the rise of synthetic biology affect demand for global genetic resources, and thus the effectiveness of access and benefit sharing agreements as a vehicle for promoting the maintenance of global biodiversity? And perhaps most fundamentally, how can competing rights claims in the area of plant genetic resources be reconciled?

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Section VI

Genetic resources and agricultural biotechnology
Special Issue: Mapping the Global Food Landscape

GMO 2.0: Genetically modified crops and the push for Africa's green revolution

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Genetically modified (GM) crops are plants in which the DNA has been engineered using laboratory techniques to express a beneficial trait. Their reception across the globe has been mixed: they form a dominant part of North American agriculture, they have been met with widespread disapproval in Europe, and they are of increasing importance in emerging economies such as India, China and Brazil. Approximately 9 percent of agricultural land worldwide was planted under GM crops in 2014. This figure expanded at a rate of 6 million hectares over the previous year, driven largely by growth in the Global South. Developing countries now account for more than 50 percent of the total acreage planted worldwide, and more than 90 percent of the 18 million farmers cultivating them (James, 2014).

This first wave of GM crops was focused around herbicide and pest-resistance, designed to make industrial farming more productive and more profitable. Over the past decade, a second wave of GM crops has emerged, one with a substantive focus on improving yields and livelihoods and a geographical focus on developing countries. Supporters suggest that these second-generation GM crops—which I refer to here as GMO 2.0—present a new vision for the contribution agricultural biotechnology can make to the global food system.

Africa in particular has emerged as the “final frontier” in the global debate over GM agriculture, and a key component of the broader push towards Africa's Green Revolution (Karembu, Nguthi, & Abdel-Hamid, 2009). The debate over the potential for GM crops to transform African agriculture is an important test for proponents who claim that agricultural biotechnology can play a crucial role in alleviating poverty and hunger. This paper aims to

survey the current state of GMO 2.0 in Africa and identify the key trends, critiques and questions that are shaping this contentious debate.

Trends: What does GMO 2.0 look like?

Across Africa, the most important actors supporting this push towards GM crops are philanthropic foundations (especially Rockefeller and Gates), and bilateral development agencies (especially USAID). This politico-philanthropic-corporate alliance, as McMichael and Schneider (2011) refer to it, laments that Africa was bypassed by the first Green Revolution, arguing that a massive investment in technologies such as hybrid seeds, fertilizers, pesticides and genetic modification is needed to improve yields and livelihoods throughout the continent. The major turning point in these efforts was the establishment of the Alliance for a Green Revolution in Africa (AGRA) in 2006, which has directly channeled more than US\$400 million to agricultural improvement efforts as part of a broader package of infrastructure, capacity building, and experimentation (AGRA, 2014).

GM has emerged as a key element of this vision for a uniquely African Green Revolution. Its advancement has been propelled not by multi-national corporations who own the proprietary rights to these technologies, but by new agents, funded primarily by foundations and development donors, such as the African Agricultural Technology Foundation (AATF), Program for Biosafety Systems (PBS), and Agricultural Biosafety Support Project (ABSP). These intermediaries play an integral role in facilitating GM's expansion across the continent: they enable access to proprietary technology, they channel funds to construct the significant infrastructure needed for domestic experimentation, they fund the training of hundreds of scientists to build capacity in the areas of research and regulation, and they engineer campaigns of "demystification" and "sensitization" designed to cultivate domestic support for GM. The result is a coordinated, comprehensive strategy that operates largely from the outside in (Schnurr, 2013).

Over the past ten years there has been a concerted shift to diversify the crops and traits under experimentation in order to prioritize those that matter to poor farmers. In Africa, this push is focused on carbohydrate staples that have been largely ignored by previous efforts at investment and improvement, including cassava, cowpea, sorghum, and cooking banana. The traits that are being prioritized are those that are deemed most relevant for vulnerable farmers, such as drought-resistance, bio-fortification, and resistance to local pests and diseases.

Experimental programs have proliferated across the continent, including *Nutritionally Enhanced Sorghum* in Kenya, *Disease-Resistant Cooking Banana* in Uganda, and *Insect-Resistant Cowpea* in West Africa. Each of initiatives follows a similar template. These are Public-Private Partnerships (PPPs), facilitated by intermediaries, in which the technology is given royalty-free to experimental programs undertaken by African scientists employed by government ministries. This arrangement, proponents argue, mitigates concerns over intellectual

property and the expanding influence of multi-national corporations. The result, though, is that critical decisions over the direction and focus of each PPP remains almost exclusively within the purview of these powerful actors, with few opportunities for farmers to shape and influence these experimental programs.

Two examples illustrate how these agents come together to create experimental programs designed to address the needs of smallholder farmers. One of the most heralded is Water Efficient Maize for Africa (WEMA). Started in 2008, this initiative “was created with a goal to enhance food security in Sub-Saharan Africa through developing and deploying drought-tolerant maize royalty-free to the smallholder farmer.... This increased yield stability has the potential to help reduce hunger and improve the livelihood of millions of Africans” (Monsanto, 2014a). This partnership is coordinated by the AATF and funded primarily by the Bill and Melinda Gates Foundation (with support from the Buffett Foundation and USAID). It utilizes Monsanto’s proprietary technology (donated license-free on humanitarian grounds), which inserts this into local maize varieties with the aim of helping over ten million farmers across five countries throughout east and southern Africa. Initial trials suggest that these transgenic drought-resistant varieties have yields that are more than 20 percent higher than regular hybrids (Oikeh et al., 2014, p. 320).

A second flagship experimental program revolves around virus-resistant cassava. Designed to increase resistance to two of the most pernicious viruses affecting cassava (cassava mosaic disease and brown streak disease) this PPP brings together the Monsanto Fund, Gates Foundation, and the International Institute for Tropical Agriculture (IITA). Spearheaded by the Danforth Institute, this program is optimistic it can achieve commercialization by 2015 (Monsanto, 2014b).

Challenges and Critiques: Is GMO 2.0 really a reboot?

The first challenge presented by the new relationships and new traits that underpin GMO 2.0 is the complex web of actors who are promoting these technologies. Much of the conversation within Africa revolves around the need for science-based evidence. But the current dialogue insufficiently recognizes the degree to which science and politics are inextricably interwoven in propelling this particular vision of agricultural development.¹ The challenge here is to unravel the complex networks of development donors, philanthropic foundations, and multi-national corporations that underpin this new paradigm in order to better understand their motivations,

¹ One striking example of the impossibility of teasing apart the scientific from the political is the recent announcement that the Bill and Melinda Gates Foundation has donated US \$5.6 million to Cornell University to promote a ‘science-based debate’ around GM crops in Africa. The lead representative of this program describes the initiative in the following terms: “Our goal is to depolarize the GMO debate and engage with potential partners who may share common values around poverty reduction and sustainable agriculture, but may not be well informed about the potential biotechnology has for solving major agricultural challenges” (Shackford, 2014).

intentions and aspirations. This process leads to some sticky questions around why GM is being advanced as the preferred technological solution for African farmers, and the potential benefits for those who are seeking GM's entry into Africa (Schnurr, 2013).

A second line of critique concerns biosafety. A comprehensive, legislated regulatory regime that conforms international protocols on environment and food safety is a precondition for the release of GM technology in Africa: none of the companies donating their proprietary technology are willing to operate in countries without one. As such, the governance and regulation of GM crops has emerged as a critical dimension of this debate over the potential for GM crops to transform African agriculture. The domestic frameworks that have emerged over the past ten years tend to follow a similar blueprint, based on a permissive model that emerged from building blocks provided by UNEP's Global Environment Facility in the 1990s. More recently, the focus has shifted towards super-national regulatory efforts at both continental (e.g. African Union) and regional levels (e.g. East African Community, Common Market for Eastern and Southern Africa). The ultimate aspiration is a harmonized system that could implement a centralized and standardized assessment mechanism, whereby an application that is vetted, tested and approved in one African country could be approved in another without additional delay.

Critics argue that this results in a one-size-fits-all formula whereby heavy investment in infrastructure and capacity building create a regulatory regime that is largely sympathetic to GM technology. For example, a recent analysis of the evolution of the regulatory process in Uganda uncovered extensive overlap between the individuals and institutions responsible for promoting and regulating biotechnology. The result is a system of governance in which those invested in the technology's success are also the ones making the critical decisions around oversight and accountability (Schnurr & Gore, 2015). Proponents argue that what is most urgently needed to improve existing regulatory structures is the "political will" to ensure the safe handling and consumption of GM technology (Wambungu & Kamanga, 2014). But the Ugandan case suggests that the deeper challenge is separating out the tasks of promotion and regulation given the limited domestic capacity that exists in most African countries.

One final challenge is the broader issue of whether GMO 2.0 represents a continuation of technocratic development that has characterized the past fifty years of agricultural interventions in Africa. An examination of trends within the promotion and regulation of GM suggest that the push towards biotechnology still operates largely from the outside in. Within this formulation it is the solution (GM crops) that comes before the problem (improving yields and livelihoods for African farmers). This inverted starting point narrows the debate over Africa's agricultural future to one that is focused solely on new technologies, and ignores other pressing issues such as crop diversification, land reform to increase access for smallholder farmers, access to extension workers, transport issues, water availability, access to credit and storage capacity.

Questions for moving forward

One of the most important and under-researched questions within this debate revolves around the intended end users: how will these second-generation GM crops be received by African farmers? Many individuals and interests are speaking on behalf of farmers, but few are listening (Schnurr & Mujabi-Mujuzi, 2014; Stone & Flachs, 2014). No one is really sure whether these technologies make sense given the ecological, economic and social conditions farmers face across the continent.

The issue of scale is crucial here. The debate needs to shift away from macro conversations about GM's suitability in Africa to more micro questions around whether GM constitutes an appropriate technology, given the particular conditions that farmers encounter on the ground. Further, we need more research investigating whether the second wave of GM crops currently under experimentation are scale-neutral. Previous research on first-generation GM crops already released in Africa show that larger, wealthier farmers tend to benefit disproportionately from these technologies (Morse & Mannion, 2009; Witt, Patel, & Schnurr, 2006). Will these new genetically modified traits/crops benefit small-scale producers? Currently there is a dearth of *ex ante* studies that examine the potential impacts of GM crops given the varied realities facing farmers across the continent.

Another important question revolves around the implications of emerging breeding technologies, which further complicate debates over the potential for GM crops to help African farmers. While defining genetic modification has always been contested, the consensus since the 1990s is that modern agricultural biotechnology is defined by the creation of transgenic material (e.g. taking genetic material from one organism and transferring it into the genetic code of another). New technologies are emerging that are challenging this static definition, including advanced genetic manipulation technologies that allow high-precision editing of the plant's own genome via cisgenesis (in which only genes from the same species are introduced) or targeted mutagenesis (in which only specific nucleotides in a gene are changed) or gene silencing (in which a particular gene is turned off). Advances in synthetic biology—in which genetic engineering techniques are used to mimic, accelerate or improve existing biological systems—present a whole new array of breeding possibilities. Many of these new breeding technologies leave the resultant crop free of genes foreign to the species, thus complicating many of the well-worn ethical dimensions of this debate. More research is needed to understand the potential applications and implications of this fast-changing technological frontier.

These debates also create pressing questions for donors. For instance, Canadian development agencies have a long history of investing in agricultural technology as a key component of its overseas development assistance. Both the Department of Foreign Affairs, Trade, and Development (DFATD) and the International Development Research Council (IDRC) view GM as a “productivity enhancement solution”, and continue to invest in exploring its possibilities as a tool for agricultural development via the Canadian International Food Security Research Fund, the Bioscience Centre for East and Central Africa and the newly launched

Cultivate Africa’s Future Project (DFATD 2013; IDRC 2013). This narrow focus on technology-driven development tends to situate hunger as a technical rather than a political problem, and fails to question some of the assumptions that underpin the enthusiasm for GM, including the degree to which this model of development is driven by outside interests, the role of the private sector in agricultural development, as well as deeper questions around whether GM crops constitute an appropriate technology for African farmers.

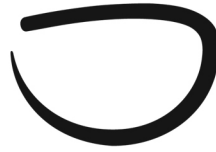
Perhaps the most important question is the one we need to move beyond: the reductive proposition that everything and everyone is either pro- or anti-GMO. Much of the conversation in research and policy circles still hinges on an all-or-nothing approach to Africa’s future with genetically modified crops. New organizations are proliferating on both sides of the debate, adding yet another voice to their camp in the hopes of swaying momentum to their side. Researchers and policy-makers need to move beyond this bifurcated debate, to ask more nuanced questions about whether this particular GM crop or trait makes sense given the specific ecological, economic and cultural circumstances facing a particular African farmer.

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Section VI

Genetic resources and agricultural biotechnology
Special Issue: Mapping the Global Food Landscape

Persistent narratives, persistent failures: Why GM crops do not—and will not—“feed the world”

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It has been almost two decades since genetically modified (GM; also called genetically engineered or GE) crops were first commercialized in North America, and anywhere from five to ten years since they have been grown in various countries in the Global South. Though short, their entire history has been a controversial one. In fact, debate about their potential environmental and health impacts, their predicted success in increasing yields and incomes, and the corporate control that accompanies them, was spirited even before the first GM crop was ever commercialized, and remains heated today.

The difference between the debates then and now, however, is that the past years have provided evidence of the performance and impacts of GM crops in the field. This evidence is increasingly showing that GM crops have not lived up to their promises, and have led to a host of negative impacts. Ironically, however, as these failures start to add up, the narrative that we *need* GM crops to “feed the world” and to address hunger seems to be getting stronger.

In this brief article, I outline the emergence of this persistent narrative, and the ways in which it obscures the many failures of GM crops. This dynamic is particularly important to examine at this moment in time, as the agbiotech industry is putting a vast amount of resources into developing and commercializing what it claims is a “second generation” of GM crops that are engineered to be specifically useful in combatting hunger and malnutrition. A deeper look at these “new” crops, however, reveals that they have a lot in common with currently commercialized GM crops, and, like the GM crops currently on the market, they do not promise to address the serious problems of food insecurity in a meaningful way.

The emergence of a pro-poor narrative

“To turn a blind eye to 40,000 people starving to death every day is a moral outrage... We have an ethical commitment not to lose time in implementing transgenic technology.”

- Klaus Leisinger, head of Novartis Foundation for Sustainable Development (quoted in Macilwain, 1999)

GM crops have often come cloaked in a strong pro-poor narrative. This framing, however, is not as old as the technology itself. The evolution of this framing is closely interwoven with the history of the corporate biotech sector, and with the biotech giant Monsanto in particular. Monsanto reacted to the backlash and regulatory restrictions against the chemical products that made up an important section of its business in the 1990s by investing large amounts of money in the research and development of GM crops that could withstand its own herbicide product, Roundup. These new crops were marketed largely to farmers in North America and Europe. However, when Europe closed its doors to GM crops in 1999, the agbiotech sector needed a new market for its expensive technology and a justification for the large sums of money that had already been spent on research (Glover, 2010). It found both by linking GM crops to existing, recognized and unavoidable global challenges—hunger, poverty, and environmental degradation. Over the next decade, Monsanto set up a number of programs in Asian and African countries, lobbied for regulatory approvals of GM crops and targeted small-scale farmers in the Global South. These activities all took place under the framing of helping poor farmers and “feeding the hungry”.

That this shift was driven by commercial interests, however, and was based on a “market based model of technology diffusion” (Glover, 2005) is most obvious in former Monsanto CEO Robert Shapiro’s own words, when he said, “It’s difficult, in the short term, figuring out how I am going to make money dealing with people who don’t have money. But in practice, the development of agriculture at a village level is something that could make an enormous amount of business sense over time” (quoted in Charles, 2001, p. 271).

The new rhetoric was not, however, accompanied by new technologies. Existing traits of herbicide tolerance and pest resistance, engineered largely into a handful of commodity crops comprise (to this day) a large majority of the GM crops on the market. These traits and crops are developed in the economic and ecological context of North America, and targeted to benefit large-scale industrial farming systems.

A strengthening narrative and shifting expertise

Although, as described above, the narrative that we need GM crops to combat hunger is by no means a new framing, it has been getting louder, and occasionally more aggressive, in recent

years. Proponents of GM crops have recently gone so far as to accuse critics of being responsible for advocating for “the deaths of millions of children” (Storr, 2013) and being perpetrators of “crimes against humanity” (Moore, 2012).

This narrative has had a number of implications that have shaped the introduction of the technology and obscured the failures. First, it skews the discussion about GM crops away from the broader issues that accompany them and, importantly, excludes the voices of the farmers that are its subject. In presenting the introduction of GM crops with the “discursive high ground” (Kleinman & Kloppenburg, 1991) of addressing hunger and poverty, this narrative has obscured the many failures and negative impacts that GM crops have had in the past years, and portrayed critics as being “emotional”, “unscientific”, and hindering efforts to address hunger and malnutrition (Jansen & Gupta, 2009).

Second, this narrative situates the existing technology at the centre of the debate around GM crops, instead of the needs of the farmers it claims to be helping or the particularities of farming regions. In doing so, it has shifted farmers away from being experts, to being consumers of particular products, often products that they had to be “trained” to use. This plays out in the discussions about the usefulness and impacts of GM crops, as well as in the ways in which they are introduced and promoted on the ground.

To accompany its release of its GM insect-resistant (Bt) cotton in India, for instance, Monsanto launched an introductory initiative called the Small Holder Program (SHP). The company posted its employees in villages as “project officers” to offer free farming advice to local farmers and to “keep the farmer on track” (Glover, 2005). Along with depicting farmers as ignorant and uninformed, such programs made them passive receivers of knowledge, and further, passive consumers and users—a stark contrast from their more traditional roles as creators, innovators, “owners” of their technologies and knowledge, and in essence, experts in their own right.

The failures of GM crops

The evidence and experiences of GM crops in the field over the past 20 years point to a number of serious impacts and risks that present a compelling counter to the claim that GM crops are necessary or beneficial in addressing hunger and poverty. A small sampling of these is briefly outlined below.

The GM crops that are on the market today were not designed to address hunger or food insecurity. Four crops—corn, soy, canola and cotton—engineered with one or both of two traits – herbicide tolerance and insect resistance—account for over 99% of global GM acres (CBAN, 2015). All four have been developed for large-scale industrial farming systems and are used as cash crops for export, to produce fuel, or for processed food and animal feed. There are very few GM fruits and vegetables on the market, or GM grains that are used for direct human

consumption.¹ These crops are clearly not designed to feed hungry people or tackle malnutrition anywhere in the world.

GM crops have not consistently increased yields or farmer incomes, or reduced pesticide use in North America or in the global South (Benbrook, 2012; Gurian-Sherman, 2009). In India, for instance, Bt cotton was introduced with the claim that it would reduce crop loss to pests such as the cotton bollworm, and in doing so would increase yields, but has not met up to its promises (CBAN, 2013). Farmers across the country have had varying success with the crop. Several noticed yields declining after the first years of cultivation, and those growing on marginal soils and in rain-fed conditions have experienced severe crop losses (Stone, 2012). Secondary pests moved into cotton fields when the bollworm population initially dropped, increasing the pesticides farmers had to apply to their fields. Soon after, the bollworm itself developed resistance to the Bt protein, and returned to cotton fields, stronger than before. In India, as in other countries, pesticide use has increased, farm expenses have gone up due to high seed prices, and when crops fail, small-scale farmers are pushed deeper into cycles of debt and poverty (CBAN, 2014b; CGMFI, 2012). Contamination incidents and the emergence of herbicide-resistant weeds further drive up farmers' costs.

These patterns are exacerbated by the fact that the control of the seed market by a handful of companies has meant that farmers are often unable to access non-GM seed. Far from increasing the choices available to farmers in the global South, the past years of GM crop cultivation have reduced the choices available to farmers while increasing the risks they face.

The "second generation"

Evaluating the past two decades of experiences with GM crops, and the persistence of the narrative that we need them to feed a growing and hungry population, is a particularly timely exercise at the moment, as the biotechnology industry is currently in the process of developing and promising to introduce a number of so-called "second generation" GM crops. These crops are being promoted as being distinctly different from existing GM crops in a few key ways. Since they are being engineered with traits that make them tolerant to environmental conditions such as floods and drought, or have altered nutritional contents, they claim to be directly targeting hunger and malnutrition. In some cases, (though they are for the most part being developed by and with the involvement of the same large firms), the crops come without some of the patents and licenses that have characterized GM crops so far.

While at first glance these crop descriptions seem to respond to some of the critiques that have been levelled at GM crops, a deeper look reveals that they share many of the fundamental characteristics of current GM crops, and in doing so, threaten to replicate their failures. These

¹ Small amounts of GM sugar beet (Canada, U.S.), alfalfa (U.S.), some squash varieties (U.S.) and papaya (U.S., China) are grown, but their acreages collectively account for less than 1% of worldwide GM acres.

similarities include the fact that these crops are not shaped to respond to existing knowledge in farming communities, are still being developed and often owned by a small handful of large corporations, and promise to perpetuate the serious environmental impacts GM crops have created so far. Perhaps most importantly, they do not go any further in addressing the root causes of hunger and malnutrition.

GM vitamin-A enriched “Golden Rice” is one example of this new generation of crops. The rice is engineered to synthesize beta-carotene, to help counter Vitamin-A deficiency (VAD). Despite hundreds of millions of dollars being poured into its research over the past 20 years, however, the crop is not yet ready for commercialization (AFP, 2013), has not been tested for bioavailability or human health impacts, and poses serious environmental risks (CBAN, 2014a). It is not certain that daily consumption of Golden Rice improves vitamin A levels of people with VAD (IRRI, 2013), and trials show that its yields may be lower than comparable local varieties (IRRI, 2014). Perhaps most importantly, it is both expensive and unnecessary. There are a number of existing solutions for VAD that are both cheaper and effective. Along with shorter-term solutions such as supplementation and food fortification (WHO, 2013), these include longer-term and more integrated strategies such as ensuring access to a healthy and diverse diet, which address multiple nutrient deficiencies simultaneously, strengthen food security, and can help supplement family sources of income.

Looking ahead

The wider industrial agriculture model that has given rise to GM crops, and that prescribes them as the solution to hunger, is one that places a small set of technologies at the heart of agricultural systems, instead of the situated agricultural knowledge of farmers. In doing so, it has replaced the ability of farming communities in many parts of the world to respond to change as experts of their own land, and environmental and cultural systems. It has instead made farmers passive actors whose role it is to purchase products and implement instructions. Importantly, when crops fail, as they have in the case of Bt cotton in India, farmers are blamed for improper cultivation and farm management. Future approaches to agricultural development, and those aiming to address hunger, need to reverse this pattern. Instead there is a need to focus on the needs of farming communities, and the knowledge they hold, in order to respond to a meaningful “demand pull”, instead of being centred around a “technology push” (Levidow, 2009).

An evaluation of the past two decades of experiences with GM crops also presents an opportunity to reiterate the inherent flaws in the reductionist notion that technologies can be uncoupled from and solve complex socioeconomic problems such as structural inequality and poverty. This technological optimism separates the crops and seeds from the socio-economic, environmental and institutional factors that they are inherently embedded within, and that shape the overall wellbeing of agricultural and social systems. “Gene splicing,” as Dominic Glover concludes in his analysis on the promotion and performance of Bt cotton in India, “is not

intrinsically capable of surmounting obstacles like poor roads, inadequate rural credit systems and insufficient irrigation” (Glover, 2010). These broader factors have all been proven, time and time again, to greatly affect the success or failure of GM—or for that matter non-GM—crops (see for eg., CGMFI, 2012; Newell & Mackenzie, 2004; Qayum & Sakkhari, 2005).

As a new wave of GM crops is developed and promoted by agbiotech companies, it is critical to look past the narrative that these crops are “feeding the world” to uncover the impacts they have on the ground. Devoting important resources to these crops, releasing them into the environment and commercializing them can have serious consequences, especially for small-scale, poor farmers. Repeating the same technological formula can only be expected to replicate the same failures.

Further questions

There is a need for further research on a number of aspects of this discussion. While there are a few studies—including those mentioned in this paper—that have attempted to evaluate the success or failure of GM crops, there is a dearth of independent research that assesses this in various countries and conditions. The following questions are important to continue to explore: How successful have GM crops truly been in providing farmers in various regions in the global South better performances, lower environmental impacts and higher incomes, and how does this performance compare with non-GM alternatives? And, what are the various differences and similarities between existing and 2nd generation GM crops, and what are their implications?

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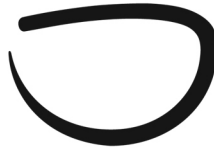
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Section VI

Genetic resources and agricultural biotechnology
Special Issue: Mapping the Global Food Landscape

The valorization of GMOs and the de-valorization of farmers' contributions to biodiversity—Synthesis paper

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Genetically modified organisms (GMOs) are deeply contested with respect to their implications for food security and environmental sustainability. The three papers in this section effectively capture the present-day focal points of the debates over the undeniably vast topic area of genetic resources and agricultural biotechnology and their implications for food security and the environment. Noah Zerbe outlines the value of (and contestation over) plant genetic materials and rights to their use. Matthew Schnurr explores the current push into a second wave of genetically modified (GM) crops, particularly focused on developing countries. And Taarini Chopra looks back at 20 years of experience with commercialized GM crops, focusing on GM technology's consistent failure to address issues of food security.

This truly is a timely moment for taking stock of the state of global agricultural biotechnology, and it is in this moment that we find ourselves moving beyond an ideological debate on GM technology to more nuanced discussions: Does this technology make sense in the current context? Is it solving the problems underlying food insecurity and actively contributing towards environmental sustainability and the improvement of livelihoods? The three contributions in this section provide strong arguments for why agricultural biotechnology does not make sense in the current context. In this synthesis paper, we take a closer look at the role of narratives, their implications, and opportunities for course correction. Two interrelated points of focus summarize this discussion: (1) the valorization of agricultural biotechnology and a persistent dedication to technological problem-solving, and (2) the de-valorization of farmers' contributions to biodiversity.

The valorization of agricultural biotechnology and genetic resources

Thematic to all three papers (and workshop presentations) was a problematization of core ideological structures that underpin the current system of agricultural biotechnology and genetic resource procurement. Zerbe addresses the need for fundamental shifts in values in the policy framework; Chopra debunks the myths of the pro-biotech narrative by referring to 20 years of experiential knowledge; and Schnurr stresses the need to move beyond a pro-biotech versus anti-biotech mindset. These three unique lenses applied to the state of agricultural biotechnology and genetic resources capture different aspects of a narrative that pushes for the valorization¹ of agricultural biotechnology and genetic resources.

For Zerbe, this narrative relates to the economic value ascribed to plant genetic resources, which is shown to be considerable. As plant genetic resources become valorized for their economic contributions to new crop varieties, which are developed using increasingly advanced biotechnologies, we should take seriously the possibility that “the contested claims over control of such materials—is only likely to increase in the future.” Schnurr’s exploration of the GMO2.0 push outlines the narratives that accompany the second wave of GMOs directed heavily at developing countries in Africa. This new era of biotechnology faces a wide range of new issues regarding regulations and intellectual property (IP), along with a familiar narrative of technological innovation being assigned *a priori* value and merit. Chopra identifies a pro-poor narrative in discussing this second wave, arguing that this “new rhetoric” is not “accompanied with new technologies”, and also recognizes that GM technology (including its newly associated philanthropic value) is situated as the focal point instead of “the needs of the farmers it claims to be helping.” We are witnessing a strengthening of the narrative that GM crops are needed, with critics being accused of being immoral. Power and control remain prevalent arenas of contestation in the areas of agricultural biotechnology and genetic resources, and the narratives maintaining their valorization are integral to this contest.

The workshop session’s discussion raised important ideas related to this narrative of valorization, such as the role of research and the concepts of farmer and consumer choice. Discussion centred on whether there is value in research into biotechnology, or if this investment is fundamentally misdirected. Schnurr mentioned the challenges associated with conventional breeding in the context of banana production, while recognizing the potential offered by biotechnology and the need to “carve out a middle ground” when it comes to research. This is an important point, as it provokes reflection upon the types of projects and products that are assigned value. For Chopra, there is little justification for this type of research given the immense investment it requires. More specifically, it isn’t the technology itself that is problematic—it is the underlying paradigm that prioritizes technological fixes to socio-

¹ For the purposes of this paper, valorization is used in a wide context as the creation and/or assignment of value and merit, whether economic, social, political, philanthropic, etc. We acknowledge the use of the term “valorization” by Karl Marx (see Marx, 2004) and associated scholars, as a reference to the production of surplus value (Jessop & Wheatley, 1999), but do not find it necessary to engage with their work specifically for the purposes of this paper.

ecological challenges in the food system. As Schnurr noted the second wave of GMOs is borne from the same paradigm wherein technology is positioned as the only solution. Zerbe echoed this thought more generally, explaining that in the current context it is difficult to imagine biotechnology outside of the mainstream system.

It was also noted that there is a narrative of choice, even though we are seeing that there are not two roads to follow for farmers (they are the passive recipients of inputs and technology); we need to change the narrative from “choice” to “no choice”. We must also consider what we’ve learned on the consumer end after 20 years of experience with biotechnology. Zerbe reminds us that the narrative of consumer choice implies consumers have the information on which to base their choice. Consumer and farmer perceptions are key to the acceptance of biotechnology, and the push to inform and educate the public is a priority of both pro-biotech and anti-biotech voices alike. The rhetoric of choice is a key aspect in the discursive valorization of biotechnology; the narrative of choice effectively maintains the value of GM crops and foods.

The topic of rights was another important workshop discussion point, particularly with regard to group/collective rights, as well as the possibilities of open source technology. These ideas are outlined in the following sections regarding the de-valorization of farmers’ contributions to biodiversity. However, the concept of rights itself is a useful point for concluding this illustration of biotechnology’s narrative of valorization. A discussion of farmers’ (and/or consumers’) rights arguably exists within a tyrannical context, as seeds are defined as property and thus become treated as such (Kneen, 2009). In this context, corporations and universities accomplish the “real” breeding work (which receives the associated valorization), while farmers “are tolerated (or even required as a source of ‘genetic resources’) but not valued” (Kneen, 2009, p. 68). Here, Brewster Kneen usefully reminds us that even discussions of farmers’ and breeders’ rights must consider processes of valorization that are deeply embedded in the language of the global corporate food system.

The de-valorization of farmers’ contributions to biodiversity

The valorization narrative (as outlined above) prioritizes the development of modern varieties over the conservation of farmers’ varieties and the farming systems in which they are embedded. Farmers’ contributions to plant genetic resources for food and agriculture (PGRFA) in the forms of biodiversity conservation and variety development are de-valorized (devalued and discredited) within a paradigm that views technological advancement in agriculture as a global imperative. Even the language used to describe farmers’ varieties as “traditional” implies lesser value than their ‘modern’ successors. However, Zerbe asserts that farmers’ varieties outperform modern varieties outside of test conditions and have more stable yields (see also Mooney and ETC Group, this issue). Chopra reminds us that it is almost entirely farmers’ varieties that feed the world today, contrary to the popular perception that GM technology has proliferated over the past 20 years. But despite the role that farmers’ varieties play in global food production and

livelihood security, their value is obscured by the dominant narrative and promise of agricultural biotechnology.

As farmers' contributions to PGRFA are de-valored, there is a conceptual shift with regard to their role in agricultural production. Small-scale farmers are viewed as passive recipients of technology rather than innovators themselves. As Chopra notes, farmers become "implementers of instructions" and need to be taught how to use technology, and, if it does not yield the desired results, are blamed for its failures. In such framings, farmers are reduced to users of inputs rather than being active participants with agency to make choices among various options. This narrative, as Chopra highlights, shifts power away from small-scale farmers in favour of the owners of technology.

When cast as passive recipients by powerful actors, farmers are not engaged in discussions regarding GM technology. Without incorporating farmers' voices into discussions, the value preferences of vulnerable populations, which the technology proposes to target, are ignored. Schnurr illustrates how the failure to reflect farmers' priorities in how technology is employed can undermine its potential to have positive impacts, even when the technology itself is not corporately owned. In this case, biofortification initiatives have received significant donor support on account of their consistency with the narrative that GMOs are needed to feed the world and respond to a global food crisis, while priority traits of farmers are not predominant in the debate.

This sort of narrative has a number of implications. First, resources tend to be diverted away from solving systemic causes of threatened livelihoods and food insecurity and instead are funnelled towards GMO research and development. The case of *Golden Rice* to combat vitamin A deficiency (VAD) provides a strong illustrative example of this resource diversion. Chopra noted that the cost of developing the variety reached \$US 136 million after ten years, and is still underdevelopment 20 years later, even though VAD can be overcome much more cost effectively in the short-term with medicine and in the longer-term with diet diversification. Schnurr likewise highlighted the cost-effective solution of using sterilized knives when grafting banana trees to stop the spread of disease, rather than investing in the development of modern varieties. These examples illustrate that the focus on technological fixes detracts from finding longer-term solutions to systemic problems.

Second, farmers' varieties host immense genetic diversity, which is being de-valored. As farmers' contributions to PGRFA are devalued, the *in situ* conservation that is intrinsic to small-scale farming systems is devalued by extension (see Ahmed, this issue). Farmers' contributions to biodiversity conservation are especially discounted in light of advancements in synthetic biology. Proponents of "cloud breeding" boast the ability to create genetic diversity where required rather than relying upon conservation measures. The discussion brought up the potential impacts of a range of new technologies (some not even considered GM), like synthetic biology and gamma irradiation, which pose the possibility of making our own diversity. Zerbe asserts that most technological advancements in agriculture still require physical inputs and that the value of biodiversity conservation remains immense. Farmers' roles as custodians are

undervalued within a paradigm that places limitless faith in the technological development and the production of diversity.

Third, the de-valorization of farmers' contributions also takes fuel away from negotiations regarding Farmers' Rights. The narrative emphasizing the superiority of modern varieties valorizes plant breeders' contributions to PGRFA over the contributions of farmers. This detracts from the importance of recognizing Farmers' Rights, as enshrined in the Convention on Biological Diversity (CBD), and provisions detailing access and benefit sharing (ABS) in both the Nagoya Protocol to the CBD and the Multilateral System under the International Treaty for Plant Genetic Resources for Food and Agriculture. Provisions for ABS represent opportunity for farmers' contributions to be recognized and rewarded, and for *in situ* conservation to be incentivized. It is imperative that farmers' contributions to PGRFA be adequately valorized in order for them to be reflected in policy. In light of the Nagoya Protocol entering into force in October 2014, it is of the utmost importance that national legislation is implemented that reflects the contributions of small-scale farmers.

Opportunities for course correction

Conversations about the state of play of agricultural biotechnology and genetic resources involve a vast range of debates that are in constant movement. For the moment, we can envision this debate as comprising (at least in part) contests over the necessity and importance of GM technology, the prioritization of dominant interests and values, and the rhetoric surrounding these contests. It is clear that we need a broader conversation about helping farmers to improve their livelihoods rather than starting with the solution, a technological fix that de-valorizes farmers' contributions to biodiversity.

An important theme that emerged from the workshop discussion was opportunities for course correction—how might farmers' contributions to PGRFA become re-valorized vis-à-vis agricultural biotechnology. First and foremost, small-scale farmers reclaim power through the implementation of Farmers' Rights. The idea of “collective rights” over resources has replaced the “common heritage of mankind” doctrine. However, Chopra noted that in practice, varieties perform best within their local contexts and collective rights have more value as a theoretical concept.

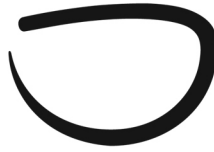
Open source was identified as a way of regulating the use of PGRFA. Although open-source strategies do not inherently provide recognition and reward to custodians, they represent an opportunity to increase access to diversity. Kloppenburg (2014) explains the sharing of germplasm through the Open Source Seed Initiatives (OSSI) may revitalize public plant breeding, and potentially “integrate the skills and capacities of farmer breeders with those of plant scientists” (p. 2). Friedman (this issue) describes the institutionalization of such alternative ownership structures (pertaining to customary land tenure arrangements) as a new politics of

resistance—a *commoning* movement—by which practices and perceptions are shifted regarding how resource access and use is regulated.

Community seed banking initiatives were also highlighted as important sites of power retention and resistance against GMOs. In such initiatives, farmers retain their agency that is otherwise lost when becoming “implementers of instructions”; they retain their ability to choose, as well as their traditional knowledge associated with farmers’ varieties and small-scale farming systems. It is a timely moment to take stock and acknowledge that GM seeds and technology don’t exist outside of the paradigm in which they are created. It depends upon a particular way of framing the problem—outside of this framing GM technology does not make much sense, as Chopra reminds us. Two decades of experiential knowledge can now be put to work to recognize the value of farmers’ varieties and small-scale farming systems which promote farmers’ choice, resilience and biodiversity conservation.

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Special Issue: Mapping the Global Food Landscape

Section VII

Land grabs and agrarian reform

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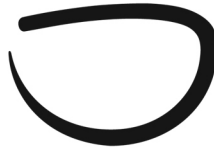
One of the key responses to the global food crisis that hit the headlines in 2008 was a significant change in land ownership in many countries as a result of large-scale land acquisitions carried out by governments, investors, and corporations. This global land grab, or what some refer to as agricultural investment, is leading to fundamental shifts in agricultural production, land use, and labour relations. Peasant and farm organizations, rural communities, and social movements in the global North and global South are actively resisting these forces, structures, and processes of further accumulation by dispossession.

The papers in this section discuss various aspects of the changing global land tenure patterns. Wendy Wolford sets the stage by first highlighting the areas of research that have been conducted on the global land grab. She then makes the case that we need more research on the nature and complexities of the different kinds of knowledge that, on the one hand, is used to engage in and promote large-scale land acquisitions, and, on the other hand, is involved in resistance and alternative land tenure models. Using a political economy approach Haroon Akram-Lodhi focuses on the “agrarian question” to stress that much more research is needed to better understand the role of capital in the changing farming production systems. While indicating the social and environmental unsustainability of large-scale, industrial agricultural farming Akram-Lodhi points to the potential of agro-ecology as an alternative. Zoe Brent then analyzes the dynamics of territorial restructuring as a result of the financialization of land in the

Americas while examining specific examples of resistance to land grabbing in Argentina and the United States of America.

Isaac Lawther's concluding paper urges us to analyze the current global land grab in the context of colonization. In centering his discussion on the key question of why the 21st Century global land grab has become so important at this particular point in history, he explores why and how it differs from earlier processes of land enclosures.

Canadian Food Studies

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Section VII

Land grabs and agrarian reform

*Special Issue: Mapping the Global Food Landscape***Fixing the land: The role of knowledge in building new models for rural development**

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Over the past five years, the term “land grab” has made international headlines. First coined by activists documenting the rise in media reports about displacements caused by the sale or transfer of land (GRAIN, 2009), land grabbing quickly became an object of academic research and debate (Borras, Hall, Scoones, White, & Wolford, 2011; Deininger et al., 2011). Although the phenomenon of land grabbing—both as a characteristic of the contemporary global conjuncture and as a specific set of practices in particular places—has been difficult to precisely define (Edelman, 2013; Oya, 2013; Scoones, Hall, Borras, White, & Wolford, 2013), academics, activists, development practitioners, and policy-makers largely agree that there has been a concerted and increased rush to acquire land over the past decade (Anseeuw, Lay, Messerli, Giger, & Taylor, 2012, 2013; Li, 2014; Pearce, 2012). Conservative estimates suggest that large-scale land acquisitions (LSLA, as they are commonly known) have resulted in a ten- to twenty-fold increase in the amount of land changing hands annually since 2008 (over the annual average of the preceding forty years) (Arezki, Deininger, & Selod, 2011, p. 1). Ongoing research suggests that investments were prompted by a combination of factors, such as the so-called global food crisis of 2007–08; concerns over land and energy scarcity; elite politics at multiple levels’ and market failures, particularly in housing and insurance, which liberated considerable capital for investment (Arezki, Deininger, & Selod, 2011; McMichael, 2014). In this context, a wide range of investors have sought out land as a profitable or necessary investment, from nation-states and state-owned enterprises seeking reliable access to food and fuel to hedge-fund managers who are attracted to farmland as a profitable, long-term addition to their portfolio.

Since 2009, considerable research has been done on LSLAs from a variety of disciplines. Notwithstanding the definitional challenges, important work has been done in an effort to quantify land deals (Anseeuw, 2012, 2013) and extrapolate the consequences of such large-scale land transfers for food security (Cotula, 2009; Rulli & d’Odorico, 2014) and the environment (Rulli & d’Odorico, 2014). Qualitative research has been conducted on land deals around the world with attention to the classic questions of political economy, namely how surplus is extracted from the land and how it is distributed before and after exchange (Borras et al., 2011). This fine-grained empirical research has built on extensive knowledge of local conditions and political-economic contexts, both of which are essential to knowing how land deals work and for whom. Theoretical work has also examined the meaning of land deals for the larger political economy (and vice versa), both historically and spatially (McMichael, 2014). Scholars from various fields not working directly on land transfers have also used LSLAs as a window onto broader conditions, allowing them to examine the nature of the contemporary state (Wolford, Borras, Hall, Scoones & White, 2013), the meaning and measure of land (Edelman, 2013), the role of nature in modern society (Fairhead, Leach, & Scoones, 2012), and the specific dynamics of urban growth (Baka, 2013; Levien, 2013). In general, research suggests that land deals often take place in areas already under small-scale or subsistence production with the intent of producing commodities for export; investors often make promises about inclusion and community development, but find themselves unwilling or unable to follow through; fair, prior and informed consent is crucial but often lacking; and people often engage in labor and markets directly tied to the investment rather than having their opportunities expanded or improved more generally.

At the same time as research on LSLAs has increased, so has work on what might be considered the alternative: peasant movements, agro-ecological farming, and food sovereignty. While these are not always formulated or even mobilized in response to LSLAs, they operate under a different set of assumptions and in so doing, present an epistemological as well as ontological challenge to large-scale transfers and production schemes (Van der Ploeg, 2008). Coming together under the umbrella of *La Vía Campesina*, movements of small farmers, rural workers, landless squatters, and environmentalists are working to preserve and create alternatives that privilege small-scale, ecologically sustainable forms of production that support and expand the local capacity for social reproduction (Edelman et al., 2014; Wittman, Desmarais, & Wiebe, 2010).

Understanding knowledge production

Although much has been written on global land deals, there is much more to be done. In particular, I argue that not enough attention has yet been paid to the ways in which different forms of knowledge are mobilized and circulated in defense of LSLAs or in support of alternatives. Without analyzing the production, circulation, and negotiation of knowledge—of

assumptions, ideas, models, and paradigms—we cannot understand how LSLAs and the promotion of input-intensive agro-industrial commodity production came to be seen as the obvious solution to increased hunger in the wake of the 2007–08 World Food Crisis.¹ In the sections that follow, I outline a possible agenda for exploring knowledge production in three key areas.

First, we need to know how different forms of knowledge, including scientific, legal, social, and political, are constructed, legitimated, and contested. This is particularly true in the area of agricultural extension and rural development, where models and plans for “improvement” or progress are predicated on very particular knowledge forms. Of particular interest is the way in which western science is mobilized to justify large-scale land deals. Agricultural sciences from agronomy to plant breeding are invoked to propose both the problems (the *high yield gap*, whereby local agricultural production does not meet the yields obtained in purportedly similar agroecological regions) and the solution (technologies deemed to utilize “universal scientific principles” that maximize production and efficiency). The validity of this knowledge often goes unquestioned, even when it is contested as inappropriate or extractivist, but science itself needs to be situated historically and spatially in order to understand both its particularity and the power dynamics behind its production and dissemination. How does such science come to be seen as necessary and superior to other ways of organizing agricultural production? How are scientific understandings influenced by critical differences in land use, environmental imaginaries, and local politics in different places? In my own research in Mozambique, plans to mimic Brazilian agricultural development have been enthusiastically supported by government, private industry, and development practitioners alike because all three groups believe that universal scientific principles will facilitate the transfer of knowledge from locations as different as Brazil and Mozambique (Wolford & Nehring, 2015; Wolford, 2015).

Second, we need to know more about how experts and different forms of expertise are influencing access to land in rural areas of the world. The push for large-scale land deals as a means of resolving global food security or low levels of productivity in local and national agriculture rests more broadly on the relationship between land and development. In this respect, land deals are brokered by an increasingly vast field of development consultants, scientists, bureaucrats, and investors, all of whom wield forms of expertise that have considerable influence on the ground and in government halls. One piece of the new context is the role of so-called “emerging economies” (Brazil, Russia, India, China, and South Africa, or the BRICS) in what is called South-South development—wherein the expertise of experience combines with notions of similarity and solidarity to justify partnerships in development. Another piece of the context is the near-universal belief that protecting land rights by providing legal title is the key to regulating land deals and mitigating their most negative effects (Peters, 2013). Such claims for the need to title property derive credibility from the classic case of English development, but play out in different ways on the ground. Land titles can protect the right people have to resources, but titling can also be a way of dividing communities and commodifying a resource

¹ <http://www.un.org/press/en/2009/gaef3242.doc.htm>

formerly held in common or through custom. Beyond title, attention needs to be paid to the multiple, overlapping and occasionally antagonistic way in which people gain access to the land in particular places (Ribot & Peluso, 2003).

Third, and finally, we need to know more about the ways in which these new land deals and the knowledge forms accompanying them are actually re-shaping rural livelihoods and landscapes. For several years now, there have been calls to conduct research on the actual material and symbolic effects of land deals (Deininger et al., 2012; White, Borras, Hall, Scoones & Wolford, 2012). Such research is difficult to accumulate for several reasons: first, many land deals are still in name only and the actual or expected effects are several years away from materializing; second, the effects play out differently for different groups and extensive research is required to capture the impressions and experiences of a variety of actors across scales; third, the effects are dynamic and need to be seen as not just changes that manifest from point A to point B, but rather as an ongoing set of negotiations, contestations, and concrete changes; and fourth, it is difficult to assess land deals against a specific alternative because the potential range of alternatives (what strategies could have been followed if not for the land deal) are difficult to identify.

In a sense, however, investigating the impacts of land deals requires unpacking the widespread faith in the capacity of markets to introduce and improve wellbeing. Perhaps the key difference between LSLAs and their alternatives is their relationship to the market. Here, the discipline of economics plays a critical role in shaping our understanding of market dynamics and effects; this form of knowledge, however, is only one way of understanding production and exchange, and assumptions built into economic models can be misleading. There are significant tensions in the official agendas for rural development between smallholder production, food security, and large-scale agro-industrial export production. Governments often “resolve” the tension between land concentration and distribution through increased commercialization, market access, and profitability. Small holders are being incorporated into large-scale schemes, largely as day laborers or through contract farming. This focus on economics and the market is in danger of generating greater differentiation in the countryside by privileging wealthier farmers, corporate interests, and large-scale commodity production rather than livelihood or food security concerns.

Policy implications of LSLAs

There have been several high profile, ongoing discussions about the policy and legal implications of land deals.

There is a clear need to support ongoing and further research on both LSLAs and their alternatives. There are organizations such as the Land Matrix and the Land Deals Politics Initiative currently acquiring information through database surveys and grounded empirical

research respectively, but these efforts need to be expanded and supported. This work also needs to link more directly and clearly to policy makers and practitioners.

There is also much energy in the work that has been done (and is being done) at the international level to provide guidance on regulating land deals. The importance, visibility and power of civil society was clear in the immediate international response to LSLAs and to the reaction in the Food and Agriculture Organization of the United Nations (FAO). While the World Bank proposed its own guidelines for behaving responsibly in the face of LSLAs, social movements immediately reacted by organizing a counter-response both locally and internationally. It is not clear whether that response will have real staying power given the interests of institutional, state, and financial capital, but several policy directions come out of the organizing work being done.

The Voluntary Guidelines put forward by the FAO need public support by national governments that also require legal assistance to determine how to comply with the guidelines. For many states, complying with the guidelines will mean fundamentally re-thinking how public, private, and civil communities access and use land. Legal assistance will be key to instituting transparent, inclusive, and progressive rules about land access and use. Along those lines, there needs to be a continued discussion at multiple levels as to what constitutes sufficient protection of land rights and use (both formal and informal). This is about the nature of democracy, as local groups need to have adequate representation and voice in the face of external interests in land and natural resources.

One of the most important policy implications of the focus on knowledge, however, is the need to fund research and extension for agriculture and rural development that does not concentrate solely on yield but rather on sustainability, livelihood, and local economies. There needs to be critical support for national extension agencies and agents such that they are equipped to promote sustainable production methods and able to reach a significant percentage of their target population. Public extension agencies have suffered extensive cuts over the past decade, making private Research and Development seem like the only avenue to everything from improved varieties, or genetically modified organisms, to market access.

To that end, policies and programs should be designed with the intention of rebuilding public research and extension systems such that plant breeding and agronomy work with the private sector but are not dominated by it. Large-scale public plant breeding efforts need to be oriented towards sustainable production of local food and fiber crops (not simply commodity crops), including grains, tubers, and legumes.

Some questions for future research

Examining knowledge in relation to land deals presents a number of challenges because knowledge is simultaneously institutional and codified and individual and unspoken. The knowledge we need to understand is the “rules of the game”, encompassing the institutions that

shape land deals as well as the norms and ideals that come to be taken as common sense. Which future is likely to feed the hungry and the poor? Which future will become common sense, human nature and taken for granted? Will the demise of small farmers finally become reality and, if so, with what effect? These are loaded questions and there is so much at stake.

Contextualizing knowledge in relation to land will require the articulation of many different scientific fields that rarely come in to conversation. On the social science and humanities side, there will need to be attention to: science and technology studies and the sociology of knowledge, environmental history, geographies of development, and critical agrarian studies. On the biology and life sciences side, there will need to be attention to: plant breeding, soil sciences, and ecology. All of these will provide the tools to examine the following two questions: what forms of knowledge generate the need for LSLAs and how are they deployed throughout the process; and what alternate ways of knowing are available and how do these engage with dominant forms of knowledge and to what effect?

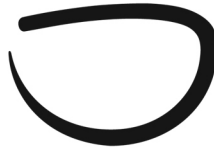
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Section VII

Land grabs and agrarian reform

Special Issue: Mapping the Global Food Landscape

Land grabs, the agrarian question and the corporate food regime

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Over the last decade civil society organizations and activist-scholars have pointed to “land grabbing” as one of the central issues to have emerged in the world food system. In particular, land grabbing was identified as a new and immediate international development issue by the non-governmental organization GRAIN in 2008 (www.farmlandgrab.org). Since that time land grabbing has generated a voluminous literature of a highly variable quality—some scholarship is outstanding and some is shoddy (Oya, 2013). This contribution seeks to clarify what constitutes land grabbing and why it takes place, as well as the key challenge that scholars and civil society activists face in confronting land grabbing in the context of the question of feeding the world. The central argument is that when a structuralist political economy is used to interpret the land grab phenomenon, it becomes analytically clear that contemporary land deals demonstrate that dispossession by displacement, or what has historically been known as the “so-called primitive accumulation”, has been resurrected as an accumulation strategy of global capitalism witnessing, for the first time in decades, the limits to the market. It is an accumulation strategy that cannot, however, deliver food justice or deal with the climate emergency.

Land grabbing: What and why?

Land grabbing can be defined as the large-scale acquisition through buying, leasing or otherwise accessing productively used or potentially arable farmland by investors, that are most commonly

corporations operating with state support, to produce food and non-food crops, to either boost supply for domestic and/or world markets or obtain a favourable financial return on an investment (Akram-Lodhi, 2012, p. 125). Large-scale refers to acquisitions of minimally 200 hectares, although such a cut-off point is quite relative—200 hectares of irrigated land in Southeast Asia is significantly different to 200 hectares of arid land in the Horn of Africa. Note as well that this definition includes, for reasons that will be discussed below, transactions of private property that are freely entered into between buyers and sellers on land markets. Corporate investors acquiring farmland may be the representatives of states, state-owned enterprises, or private capital, and they may be involved in agriculture, industry, or finance.

The scale of corporate farmland acquisition is extremely contentious and any claims that are made about it are derived from a weak evidentiary base (Cotula et al., 2014). So, when the International Land Coalition (ILC) produced a landmark 2012 report that found that between 2000 and 2011 2042 deals covering 203.4 million hectares were “reported as approved or under negotiation”, this should be treated very carefully. So too should the claim that 1,155 deals covering 70.9 million hectares had been cross referenced from multiple sources as “actually already subject to acquisition” (Anseeuw et al., 2012, p.19). Moreover, while it is reasonably clear that land deals in Sub-Saharan Africa account for the largest share of land grabs, when the ILC suggests that Sub-Saharan Africa accounted for almost 50 percent of the global acreage involved and Asia covered around 20 percent of the total area involved, this claim too must be cautiously evaluated (Anseeuw et al., 2012).

The ILC study strongly argued that biofuels, food, and cash crops were important drivers of global farmland acquisition. However, the rise of fracking, particularly in North America, has resulted in a significant expansion of domestic energy supplies in many countries, resulting in downward pressures on energy prices, which has important implications for the viability of biofuel-driven land grabs and may explain multiple reports of failed land grab projects around biofuels (see, for example, Wise, 2014). In this light, it is probable that export-oriented food and cash crops are important drivers of the corporate farmland acquisitions continuing to take place. To this, however, finance should also be added, as will be discussed below (Breger Bush, 2012).

Land grabbing, market imperatives and the agrarian question

Ostensibly, the reason for large-scale corporate farmland acquisition was the increase in global food prices that commenced in 2007-08 (Akram-Lodhi, 2012). However, conjunctural events can also reveal more deep-seated processes, and this is the case with land grabbing: large-scale corporate farmland acquisition must be located within the ongoing development of capitalism in agriculture on a world scale. This is because land acquisition to increase the scale and scope of farming, either as a result of dispossession by outright politically-driven displacement—that is, the so-called “primitive accumulation”; or dispossession through accumulation—that is, market-led exclusion—is a routine and predictable part of the process of capitalist development (Akram-

Lodhi, 2007; see also Hall, 2013). As capitalism reconfigures farming systems in order to increase the production of the marketed surpluses of food and cash crops that are necessary to sustain low-priced wage goods and industrial inputs and thus boost the profitability of capital, there is a need to increase the scale of production in order to better meet market imperatives. Market imperatives are defined as the need in commodity economies to sell farm output at competitive market prices by continually lowering costs of production by investing in cost-reducing techniques and technologies (Wood, 2008). This process results in increases in the scale of production, which take the form of an increase in the capital-intensity of farming systems, and thus an increase in the ratio of capital stock to land. The livelihood outcomes of this process are, for many in the countryside, negative, as market imperatives and profitability requirements undermine the capacities of many small-scale farmers to compete on domestic markets, and hence survive as viable farm operations. In so doing, an increase in the ratio of capital stock to land is consistent with increases in land holdings; indeed, capturing scale economies from farm equipment and machinery may require larger farms (World Bank, 2007). So land acquisition by emerging and/or established capitalist actors in agriculture, industry with a stake in farm production, or finance tied to agriculture, is wholly consistent with the problematic of the “agrarian question”: whether, and, if so, how, capital is transforming farming and agricultural production systems. Capital transforms farming by enforcing market imperatives on farmers once their products become produced for the purpose of sale rather than use. In doing so it facilitates the emergence of capitalist relations of production, in which the means of production are under the control of a socially-dominant hegemonic class, labour is “free” from significant shares of the means of production and free to sell its capacity to work, and the purpose of commodity production is the seeking of profit (Akram-Lodhi & Kay, 2010a).

In this light, a structural political economy would identify contemporary corporate farmland acquisition on a global scale as a form of counter-agrarian reform that must be situated within the logic of the agrarian question. This is because large-scale corporate farmland acquisition would be part of a process by which capital resolves the question of the role of agriculture in global accumulation by facilitating the establishment of large-scale, large-size farm units organized under increasingly capitalist relations of production. Note that these transactions can be of private property that is freely entered into between buyers and sellers on land markets. However, the extent of the “freedom” to enter into or exit from a transaction can be so severely circumscribed by the market imperative, and particularly by the accrual of debt as a result of the market imperative (Graeber, 2011), as to render the idea of freedom a fiction. At the same time, as capitalism transcends state boundaries the terms and conditions by which capital transforms farming and agriculture is subject to huge variation. This variation can be seen in terms of the social relations within which capital insinuates itself, the spatial landscapes over which capital operates, and the temporal frame in which processes of agrarian change are played out (Brent, this issue). As a consequence, the overarching structure that has to be understood if the process and implications of corporate farmland acquisition are to be fully grasped must be that of the dominant food regime, which can be used to situate the agrarian question within its world-

historical context (McMichael, 2012). In a classic formulation, a food regime can be defined as the “international relations of food production and consumption” that can be directly linked “to forms of accumulation” (Friedmann & McMichael, 1989, p. 95). It is now increasingly widely argued that the current food regime can be characterized as being *corporate* (Akram-Lodhi, 2012; Holt-Giménez & Shattuck, 2011; McMichael, 2012).

Land grabbing and the corporate food regime

The corporate food regime is dominated by global agro-food transnational corporations, driven by financial market imperatives of short-run profitability, and characterized by the relentless food commodification processes that underpin “supermarketization”. This regime forges global animal protein commodity chains while at the same time spreading transgenic organisms, which together broaden and deepen the temperate “industrial grain-oilseed-livestock” agro-food complex (Weis, 2013; Weis this volume). At the point of agricultural production, the dominant producer model of the corporate food regime is the fossil-fuel driven, large-scale, capital-intensive industrial agriculture megafarm, which in turn requires deepening the simple reproduction squeeze facing small-scale peasant petty commodity producers around the world and increasing the ranks of the relative surplus population (Akram-Lodhi & Kay, 2010b). A core market for the agro-food transnational corporations of the corporate food regime are relatively affluent global consumers in the North and South, whose food preferences in the last quarter century have been shifted towards “healthier”, “organic” and “green” products that have large profit margins. At the same time, though, for the global middle class the corporate food regime sustains the mass production of very durable highly processed food manufactures that are heavily reliant on soya, high fructose corn syrup, and sodium and whose lower profit margins mean that significantly higher volumes of product must be shifted. Thus, the corporate food regime simultaneously fosters the ongoing diffusion of industrial agriculture—Fordist food such as MacDonalds—as well as standardized differentiation—post Fordist food such as sushi (Akram-Lodhi, 2013). The corporate food regime is sustained by capitalist states, the international financial and development organizations that govern the global economy, and the big philanthropy that can sustain the expansion of capitalism (Fridell & Konings, 2013). Notably missing from the profit-driven logic of the corporate food regime, however, are those that lack the money needed to access commodified food in markets and who are thus bypassed by the regime. This is the relative surplus population that is denied entitlements to food as a result of the normal and routine working of the global food system and who are thus subject to food-based social exclusion (Akram-Lodhi & Kay, 2010b). For this relative surplus population the only answer to the global agrarian crisis lies in waged labour, whether it be on the farms of others that have successfully navigated the complex dynamics necessary for success in the corporate food regime, or whether it be off-farm, in rural or urban waged labour.

Nonetheless, understanding the role of land grabs in the corporate food regime and both the specific land allocation and production processes at work and the outcomes is very difficult because of the fractional interests that are involved. Agribusiness capital seeks out land to grow food crops. Industrial capital seeks out land for cash crops and, probably now to a lesser extent, biofuels. Finance capital is interested in developing new crop- or land-based financial instruments, that could be tied to land deals and/or used for speculative gain. Moreover, different fractions of finance capital view land in different ways: speculators have different interests from hedge funds, for example. These distinctions have an important implication: while capital drives the direction by which land use does or does not change and in so doing directs an effective counter-reform in land- and agrarian-based social relations in support of industrial agriculture megafarms, different fractions of capital have quite different objectives that govern their behaviour. Agribusiness and industrial capital both seek to produce more so that rising demand for food, feed, fibre and, perhaps, fuel can be matched by an increasing physical supply of food and non-food agricultural crops. Finance capital wants less to be produced so that scarcity drives prices upwards and in so doing increases the possibility of arbitrage-based profit.

Having said that, as land grabs facilitate an increase in large-scale, capital-intensive industrial agricultural megafarms at the expense of small-scale petty commodity peasant producers an “extensification of intensification” takes place that is most reminiscent of the so-called “primitive accumulation”. This is because it is predicated upon the dispossession of small-scale petty commodity peasant producers, not through the normal workings of highly imperfect markets capable of being shaped by social power, but rather through outright extra-economic imperatives as local and national states promote and facilitate the enclosure of lands that they claim are empty. Thus, land grabs foster, in effect, not agrarian reform but counter-reform in the countryside as land holdings concentrate and centralize. In an age of chronic economic crisis, contemporary land deals demonstrate that dispossession by displacement has been resurrected as an accumulation strategy of global capitalism witnessing, for the first time in decades, the limits to the market as a result of the global economic crisis that started in 2007 (Kaufman, 2012). Of course, the implications of this profitability strategy for the expanding ranks of an insecure relative surplus population and those most directly impacted by a systemic global subsistence crisis are not considered because of the food-based social exclusion that is a defining characteristic of the corporate food regime.

Land grabbing and feeding the world

As has already been stressed, it is clear that even after more than five years of intensive research on the processes and implications of land grabs, the state of knowledge is actually very limited. This is to be expected given the narrow time horizon within which scholars and civil society organizations have worked. In this light, it is not possible to make definitive statements about the

scale, scope, processes, and outcomes of land grabs. While intuitive insights are possible, there is nonetheless a significant “known unknown” at work: significantly more evidence is needed.

Having said that, the fundamental question facing scholars, civil society activists, and policy makers is not so much about land grabs as about the form of agriculture they facilitate. Land grabs, through the extensification of intensification, facilitate the further development of large-scale capital-intensive industrial agriculture (Li, 2011). This begs a central question: are capital-intensive industrialized agricultural megafarms an agrarian production form capable of feeding the world in 2050? More research that investigates the following questions is needed: how extensive is large-scale corporate farmland acquisition, nationally, regionally and globally? To what extent does large-scale corporate farmland acquisition result in the creation of “extractivist” farms that treat food production as just another commodity, like oil and gold, to be mined from the land until land is exhausted, with implications for biodiversity and sustainability (Brent this volume)? Indeed, as finance becomes interested in land, food, and agriculture, but treats it simply as a new kind of asset class that can drive increased financial profits, what are the implications for the food system of the ongoing enclosures of land, intellectual property and other forms of commons (Akram-Lodhi, 2007)? And what is the impact of large-scale corporate farmland acquisition on the living standards of local communities over time?

It is increasingly apparent that large-scale capital-intensive industrialized agricultural megafarms are in the process of reaching their ecological limits and in so doing will restrict the development of the forces of production in agriculture. This is witnessed in the contribution of industrial agriculture to global warming, in the systemic inefficiencies of an extractive model of agriculture that depletes soil minerals and micronutrients, and in the health crisis that is a direct consequence of the corporate food regime (Akram-Lodhi, 2013, forthcoming). The continued development of productive forces in a way that not only feeds the world but also cools the planet, while providing viable livelihoods, requires an alternative agricultural production model that can continue to increase farm productivity and the production of marketable surpluses. That model is likely to be a significantly scaled up version of agroecology, given its potential to transcend the limits to accumulation inherent in the corporate food regime by facilitating the ongoing development of the productive forces (see Ahmed, Snipstal, and Zerbe, this issue; see also Chappell, 2007).

However, in order to facilitate an agroecological transition that resolves the agrarian question within the context of a new food regime, certain preconditions are required (Akram-Lodhi, forthcoming). For example, among others, there is a need for pro-poor, gender-responsive agrarian reform; restrictions on the operation of land markets in order to sustain the position of smallholders; increasing agricultural surpluses through sustainable biotechnological change; a reconstruction of local food systems rooted in the landscapes within which they are embedded and which can shape tastes, as was historically the case; the reconstruction of the public sphere as the first step in contesting the state in order to facilitate the emergence of a pro-poor, gender-responsive state; and restrictions on the operation of global food markets through the creation of an International Trading Organization that would be designed to manage food supplies in order

to enhance human development, full employment, and sustained increases in the standards of living of the marginalized.

Clearly, this is an ambitious agenda. It is not something that will be given, as it fundamentally challenges the patterns of economic power and privilege that shape our times (Piketty, 2014). It can only come about if, as Eric Holt-Giménez (2011) stresses, food sovereignty movements seeking social transformation reshape the “common sense” of other, progressive and reformist, elements of global food movements that have different and contrasting ideological perspectives on capitalist development and thus different agendas. Transformational food sovereignty movements must seek to inclusively find common ground with progressive and reformist food movements in order to construct a new form of food hegemony rooted in a socially-just and climate-friendly agroecology.

Questions for future research

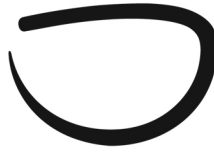
1. How extensive is large-scale corporate farmland acquisition, nationally, regionally and globally?
2. Are “extractivist” capital-intensive industrialized agricultural megafarms sustainable in the period to 2050?
3. Does the financialization of the food system produce ongoing enclosures of diverse forms of commons around the world?
4. What is the impact of large-scale corporate farmland acquisition on the living standards of local communities over time?

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Section VII

Land grabs and agrarian reform

Special Issue: Mapping the Global Food Landscape

Territorial restructuring and resistance in the Americas

Zoe Brent

Food First

Over the last thirty years, social movements for agrarian reform have struggled to keep up with the profound changes in the structures of land and agricultural production sweeping the continent. In Latin America, what once was a struggle for redistribution, dignity, and social justice in the context of national liberation, has shifted towards a model of “market-led land reform” focussed on productivity, privatization and opening land markets. In the U.S., there have been some important waves of agrarian resistance, but a sense of American exceptionalism has limited agrarian reform discourse from shaping policy, especially during and after the Cold war when it became associated with communism. Today, in *both* the global North and South, land grabbing and the financialization of land contribute to processes of territorial restructuring and pose broad threats to rural communities, farmers, indigenous peoples, fisherfolk, farmworkers, peasants, and people of color. Consequently, a territorial perspective that broadens alliances and focuses on building political power is emerging among agrarian social movements in Latin America. But (although there are important exceptions) much of the response to the land question in the U.S. remains focussed on land-use planning, zoning, and market-based mechanisms. In part, this reflects a small demographic of farmers, making it very difficult to build a strong political base.

Territorial restructuring

After the financial crisis of 2007–08 a flurry of research and media attention on land grabbing¹ and the financialization of land has put land in the spotlight of development debates and signaled a renewed interest in investing in natural resources (Clapp, 2013; Fairbairn, 2014; Gunnoe, 2014). The high prices on international markets for natural resource-based commodities from gold to soybeans are an important draw for capital. But these market-based explanations mask the ways in which capital penetrates and restructures agrarian production systems—today’s agrarian question. To supply international demand for commodities, processes of *territorial restructuring* are underway from Alaska to Patagonia.

Territorial restructuring is the process by which capital, working closely with the state and/or multilateral/international finance institutions, seeks control over the places and spaces where surplus (wealth) is produced by shaping the institutions, regulations, projects, and social relations that determine economic activities in a particular region (Holt-Giménez, 2008). It reshapes activities of production, extraction, services, and commerce in order to determine how a particular region’s wealth will be generated and where it will ultimately accumulate. In this perspective, *place* refers to the physical areas where production and restructuring happens. *Spaces* are the socio-political arenas in which different actors vie for power and ultimately restructure the political economic conditions (institutions, laws, policies, endowments) that determine the nature, pace, extent, and direction of surplus. While the dynamics of restructuring vary across space and time, the dominant modes of commodity production are consistently extracting natural resources and profits throughout the region at an unprecedented rate. As a result, land grabbing and financialization are both contributing to this restructuring and further concentration of land and profits in the hands of large corporate interests and financial institutions.

Governments in the North and the South have responded to the commodities boom by opening up political spaces to accommodate corporate interests, which in turn are gulping down water, moving mountains, and obliterating valleys to extract and sow commodities for the international market. Despite the similarities between the processes of agrarian change felt by rural communities in the global North and South, current struggles over land and agendas for agrarian reform have been shaped by divergent trajectories of resistance. In general, the South has moved beyond agrarian reform to a broader territorial perspective while the U.S. has in many cases scaled back demands focussing on land-use planning.

¹ On land grabbing, see GRAIN’s 2008 report, “Seized: The 2008 land grab for food and financial security” and their ongoing news and analysis at <http://www.farmlandgrab.org>. Also: see special issues in the *Journal of Peasant Studies* 40(5), as well as *Globalizations* 10(1). For working paper series, see: <http://www.iss.nl/ldpi>

Challenges of resistance: Argentina

In Argentina for example, research on land grabbing has called attention to large-scale transactions like the stalled deal for 320,000 hectares with a Chinese company (the Beidahuang State Farms Business Trade Group CO, LTD) in Rio Negro, or the 200,000 hectares acquired by the Saudi Arabian Al-Khorayef Group in the province of Chaco in 2010, which represent the restructuring of “places” to produce commodities for export (GRAIN, 2012). However, the large-scale focus of land grabbing is less helpful in revealing how power and control over land is being concentrated even more frequently at a much smaller scale. According to a 2013 study by the Ministry of Agriculture, Ranching and Fishing (MAGyP), nearly a quarter of Argentina’s farming families are engaged in some kind of dispute over their land (Bidaseca et al., 2013). Forty-eight percent of the 857 cases identified are conflicts over parcels of 500 hectares or less.

Neoliberal reforms established a pattern of territorial restructuring that land grabs also reproduce, but are not solely responsible for. President Menem’s (1989-1999) neoliberal reform of agricultural inputs sectors, for example, privatized and concentrated seed markets for maize and soy, selling national seed companies to multinational companies (Newell, 2009). These powerful industry players maintain access to government decision-making processes directly and through representative organizations like the *Asociación de Semilleros Argentinos* (ASA) and the *Foro Argentino de Biotecnología* (FAB). Murmis and Murmis (2012) remind us that while much of the trade in commodities is dominated by multinational firms, control of land and resources to produce those commodities happens in a variety of ways, combining domestic and foreign capital, investment “pools,” land leasing, and outright purchase. In the words of Argentine journalist Darío Aranda, “The main problem for peasants and indigenous peoples is not foreign ownership, [but] rather the dominant model of agricultural production” (Aranda, 2011, p. 11). Key actors advancing this dominant model are both foreign and domestic, financial and agricultural, and they rely on influence over political and institutional spaces to do so (Murmis & Murmis, 2012).

Neoliberal reforms changed the nature of production systems and ‘reprimarized’ regional and national economies, effectively doubling down on natural resource based primary goods for export (Svampa, 2013). They also changed the meaning of agrarian reform. After WWII rural revolutionary guerilla movements and national liberation struggles included calls for land reform, but according to Veltmeyer (2005), they were often peasant-based, but not peasant-led (p. 307). Then, what Patel and Courville call the “neoliberalization of agrarian reform” led by the World Bank, shifted the emphasis from redistribution to productive efficiency (Courville & Patel, 2006).

In response, some peasant and indigenous movements have moved beyond agrarian reform to the defense of territories. As threats to peasant and indigenous livelihoods have broadened and intensified, the international peasant movement La Via Campesina “has increasingly learned to think in terms of territory” (Rosset, 2013, p. 726). Thinking in terms of territory has also shaped the framing of the movement, increasingly expressed as an alliance between peasants and indigenous communities united by common threats to their territory from

the expansion of agribusiness and mining in the context of neoliberal capitalism. Legal claims are used in combination with direct action. These movements are deeply political, incorporating political education into the core of their work and once again basing their claims around justice, dignity, and food sovereignty (see Food Sovereignty section, this issue).

Challenges of resistance: The United States

Similar to Argentina, processes of territorial restructuring in the U.S. are threatening rural communities. This process is not just a response to market signals, i.e. the “invisible hand.” Deliberate policy choices and legal frameworks have subsidized corporate producers and opened the door to a new wave of financial investment in land.

Over the course of the past century, the deepening of the agro-industrial model of commodity production has steadily eroded the base of small-scale farmers in the U.S. However, in recent decades even those farmers who remain are increasingly renting or leasing land (Duffy & Johanns, 2014), and non-agricultural owners are becoming landlords (Fairbairn, 2014; Gunnoe, 2014; Ross, 2013). As capital faces a crisis of over-accumulation, the financial crisis has left investors searching for new money-making opportunities. What Gunnoe (2014) calls “institutional owners” (p. 2) are speculating on land, steadily driving land prices up (USDA, 2013). These owners include “a broad array of financial actors, including pension funds, endowments, sovereign wealth funds, hedge funds, and private equity firms, among others” (Gunnoe, 2014, p. 2). As the U.S.’s farming population ages, investors like UBS Agrinvest, a subsidiary of the biggest bank in Switzerland; The Hancock Agricultural Investment Group (HAIG), a subsidiary of the biggest insurance company in Canada; the Teacher Annuity Insurance Association College Retirement Equities Fund (TIAA-CREF); and Ivy League Universities like Harvard are ready to purchase. Gunnoe highlights a number of reforms that have paved the way for finance in the U.S. including the deregulation of financial markets in the 1970s, reforms in the U.S. tax code in the 1980s,² and declining Federal Reserve interest rates on loans to private banks since the 1980s that provided more money for borrowing and investing (Gunnoe, 2014, p. 10).

In addition to shifts in farmland ownership, a U.S. energy renaissance is undermining rural communities’ control over their land. Access to the rights to subsurface minerals is shaped and encouraged by an array of regulations and institutions. For example, on public lands the Bureau of Land Management grants mineral leases, whereas on private lands companies are allowed to negotiate directly with landowners. An army of “land men” have been deployed by private companies to pressure rural residents to sign away mineral rights (Riordan Seville, 2014). Although these regulations have been in place for decades, Obama’s “all of the above”

² For example, the decrease in the tax rate on capital gains from 40 percent in the late 1970s to 15 percent today—in addition to the Reagan administration’s Tax Reform Act of 1986—has had the effect of shifting the tax burden away from the financial sector and onto industry and labor.

energy strategy has increased their use in order to usher in more energy development from oil, to natural gas, to biofuels.³

Even though the U.S. government has supported land reform to combat inequality and land concentration in other countries, a sense of U.S. exceptionalism regarding land has limited the extent to which the idea of agrarian reform has taken root at home (Geisler, 1984). Although it suffered from many shortcomings in its redistributive capacity, the U.S. federal government was still giving land away under the Homestead Act until 1960 (in Alaska) (Geisler, 1984). At the beginning of the 20th century radical agrarian populist farmers organizations and socialist groups put agrarian reform on the table (Goodwyn, 1980 as cited in Geisler, 1984, p. 9–10) and in the 1970s the issue again gained momentum (Holt-Giménez, 2014, p. 4). But, in the context of the Cold War, these socialist associations made it hard for agrarian reform to influence mainstream policy. On the other hand, beginning as early as 1926, land reform was gradually “redefined as land-use planning” (Geisler, 1984, p. 11). In this context and as the farming population has decreased, building the political power necessary to re-radicalize land issues, has been challenging.

Nonetheless organizations are fighting to mobilize U.S. farmers to confront threats of financialization, land grabbing and land concentration. For example Organizations in Washington DC like the NFFC (National Family Farm Coalition) and Rural Coalition/Coalición Rural have focussed for decades on reclaiming control in key political spaces that enable territorial restructuring to undermine small-scale farming communities, for example resulting in a number of new programs under the 1987 Agricultural Credit Act. These efforts developed in conjunction with important work by the Land Loss Prevention Project (LLPP) based in North Carolina and the Federation of Southern Cooperatives/Land Assistance Fund (FSC/LAF) that were founded in 1982 and 1967, respectively, to help African American farmers retain their land amidst ongoing discriminatory practices and economic crises. Some important victories have been won by farmers and allied organizations to prevent loss of land, but the dominant policy conversation about agricultural land in the U.S. is taking place under the banner of farmland preservation, tax incentives, re-zoning agriculture back into cities, and negotiating fair farm leases.

There has been a proliferation of land trusts seeking to use voluntary market-based conservation easements to preserve agricultural land, but in many cases connections with the farmers those easements intend to serve are weak or tension-filled (Beckett & Galt, 2014). These efforts are developing innovative policy tools to protect farmland, but rather than building a widespread political base, they tend to be spearheaded by non-profit land trusts, food policy councils, or individual landowners and farmers. Additionally, they fail to address the deeper crises in rural areas that make it nearly impossible for farmers to compete with the new institutional owners for land. First, there is a crisis of profitability: for example, over half of all

³ Barack Obama introduced his All of the Above energy strategy in 2012, for more information see <http://www.whitehouse.gov/blog/2014/05/29/new-report-all-above-energy-strategy-path-sustainable-economic-growth>

farms in California saw net losses in 2007. Net farm incomes have fallen steadily since their historical high in 1910. Second, there is a crisis of working conditions: unacceptable poverty-level farmworker wages effectively subsidize U.S. agriculture and make competing as a small farmer who pays living wages very difficult. Changing these deeper structural issues will require broad-based political pressure from social movements led by those communities most affected by territorial restructuring.

Moving forward

A broader historical and geographic perspective of land struggles can inform and shape resistance strategies throughout the Americas. Legal mechanisms and land use laws are essential to solving the land access problem, but the fight is not just about easements, land prices, or zoning. Rather, it is about the ability of people to benefit from the land. Gaining and maintaining *control* over land and redistribution of power are therefore central to the struggle. And while many organizations are doing important work to mobilize rural and urban communities, and deepen the political nature of resistance in the U.S., there is much to learn. Representing only 2% of the population, U.S. farmers simply do not have the same potential for mobilization that still exists in much of Latin America, where an average of 15% of the population still farms (FAO, 2012). Financialization, land grabbing, and land concentration severely threaten both groups throughout the Americas. But these regional similarities also present a political opportunity for strengthening alliances to confront shared threats.

In the face of ongoing processes of territorial restructuring important questions moving forward include: how can alliances among social movements in the North and South, and across sectors and classes be strengthened and expanded to build political power in defense of territories throughout the Americas? And while recognizing geographic and historic differences, how can such alliances be used to exchange knowledge about effective legal and political strategies of resistance to reclaim control of spaces and places, and bring about needed transformation?

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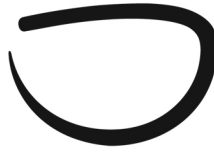
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Section VII

Land grabs and agrarian reform

*Special Issue: Mapping the Global Food Landscape***Land grabbing: New actors in a longstanding process—
Synthesis paper**

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Land is a complex component of the global food system. There is no one definitive function of *land*; we can stand on it, build on it, grow food on it, extract from it, divide it, and identify with it. Not surprisingly, rising investment in farmland in the wake of the 2007–08 food crisis—popularly referred to as the global “land grab”—has been a contentious issue in the global politics of food and agriculture. There has been no shortage of exchange between scholars, non-governmental organizations (NGOs), and civil society on the issue. The preceding papers in this section by Akram-Lodhi, Brent, and Wolford covered, among other things, three distinct issues within the ongoing discussion of global land grabs: dispossession, the agrarian question(s), and access to and control over resources. They also discussed some possible paths forward.

This synthesis will consider how these contributions can address a common question about the global land grab: If land enclosure and land dispossession have been longstanding historical processes, why then has the global land grab become so topical now? This synthesis will be divided into two main sections to consider this question. First, I will reflect on why it is important to ask this question and aim to rationalize the new drive that has been given to the global land grab debate. Second, the distinct ways that the papers by Akram-Lodhi, Brent, and Wolford on this theme can assist in answering the question will be discussed. Third, I will conclude by discussing some issues that are raised within the larger land grab literature and point to several recommendations for further research.

The global land grab in context

An important theme surrounding the global land grab is the question of what parallels exist between the current global land grab and colonialism. This question invariably leads to further inquiry about the significance of the global land grab as a contemporary topic in food studies. From the ancient Egyptians, to Christopher Columbus, to modern day, history has been marked by enclosures of land. Why then are we discussing the topic again with such vigour? The term “land grabbing” itself is not new; it was coined in 1867 by Karl Marx in *Das Kapital* and then re-emerged in 2008 in reference to a seemingly orchestrated spate of land deals in the global south.¹ To address what is different about the contemporary land grab, we need to look at how we conceptualize the division of land at the global scale (also see Friedmann, this issue).

Internationally, land is divided into countries, or nation-states. The divisions that separate the land into countries sometimes run parallel to geophysical features, which create natural borders, and this often has the effect of distinguishing groups of people by cultures, languages, livelihoods, and identities. For example, some portions of the China-India border are divided by the Himalayas; Chile and Argentina are separated by the Andes; and Australia is surrounded by “not land”. But for each border defined by a natural geographic feature, there will be an example where land has been divided along seemingly arbitrary lines; roughly eight countries have borders in the middle of the Sahara Desert and Canada and the U.S. are separated by the 49th parallel, which bisects the North American plains. Yet, when looking at the state borders in these regions, the countries fit together like rigid puzzle pieces.

Attempting to explain these “lines in the sand” is where we can begin to question why the current discussion on land grabs is so distinct. Instilling the notion that borders ought to exist where geophysical barriers do not has required a long history of both territorial, and ideological enclosure. Consider the borders on the African continent. By-and-large these borders are the product of a bout of colonial hysteria, that is often referred to as the scramble for Africa, and were formalized at the 1884-85 Berlin Conference (Chamberlain, 2013; Herbst, 1989). Neither the colonialism that divided Africa, nor the notion of a Westphalian state system resonated very deeply with the diverse livelihoods that spanned across the continent at the time. Rather, the entire state system itself is an imposition of an ideology that enclosed on all land across the globe. In light of this, one could argue that the borders reflected on a world map are as much a visualization of geopolitics as they are a chronicle of land grabs. The way that we understand the world and the countries within it draws on a history of what could conceivably be explained as the greatest of all land grabs; it is a challenge to find land anywhere that was not seized at some point.

Considering these points, let us return to the question posed at the beginning of this section: why has the debate on land grabs (re)emerged and even inspired the title of books such

¹ In chapter 15 of *Das Kapital*'s English translation, Marx referred to the phenomenon of labourers in the English countryside being driven from their land to make room for agriculture as “land grabbing” (Marx, 1959).

as, for example, *The New Scramble for Africa* (Carmody, 2011). In examining the papers by Akram-Lodhi, Brent, and Wolford on this theme, we can see that the operative word for this discussion, in fact, does not appear to be “land”, “grab”, or “agrarian reforms”; rather, the operative word in the land grab debate is “new”. The global land grab, as we know it, is significant because there are new non-state and private actors who are using land as gateway for territorial and ideological expansion. The discussion below summarizes how each author analyzed the contribution of these new private actors in changing the dynamics of the global relationship with land, and how together they rationalize a discussion on the global land grab as a distinct phenomenon.

What distinguishes the global land grab as a new phenomenon?

All three articles on the theme of land provide a discussion on the new actors that are driving the global rush for land. Akram-Lodhi discusses the global land grab as a type of counter-reform, and argues that the global land grab is a symptom of the corporate food regime. He indicates that global agri-food corporations are using land purchases to increase the global ratio of capital stock to agricultural land. This trend reflects the expansion of private actors, and the land grab can be understood as a form of primitive accumulation by dispossession that is perpetuated by corporations. Akram-Lodhi also emphasized the need to look carefully at claims that try to quantify the extent of the global land grab. Many land deals happen behind closed doors, and as Wolford points out, many land deals exist in name only, but are yet to have materialized. This makes it tremendously difficult to visualize the extent of the global land grab. The rise of private actors investing in land creates abstraction in the scale of phenomenon. Thus, many agree that there is no absolute and reliable index of land grabs.

Wolford compliments Akram-Lodhi’s points regarding the counter-reform process of land grabs by arguing that land grabs can be used to disseminate scientific expertise, and as a result, land grabs expand on the homogeneity of global agricultural landscapes. Wolford draws on the new role of scientists in legitimizing a technologically driven mode of food production. She argues that while corporations may be purchasing physical land, science has highlighted the notion of a “yield gap”; therefore, science is an important force in enabling the ideological expansion of industrial agriculture. The factors of production for large-scale agriculture in Mozambique are scarce, and as a result, Wolford explains that this is how investors use technological and scientific versions of agricultural expertise to build local dependence on their modes of production.² The dissemination of agricultural expertise ought to be situated within the global land grab dialogue in that it modifies the way that land is used in different territories.

² Wolford referred to a specific case study in Mozambique in her workshop presentation, an application of the theoretical material in the paper included in this issue.

Moreover, the spatially expansive nature of the global land grab means that technological modes of production are occupying, and enclosing on, vast areas of land.

Brent stresses that there is a new class of investors who have found interest in land, but some of these have little capacity to use the land for agricultural production. For example, she pointed to Harvard University's interest in land in California, as well as financial institutions and large institutional investors who are purchasing land as an asset for speculation. Her work demonstrates that the land grabbing is not a process that is contained to the global south. Brent raised an important point about land reform when she noted that land grabs are not simply about access to land, but about how people can benefit from its usage. Brent's discussion of the role of non-agricultural institutions in land grabs led some conference participants to raise questions about whether or not the land grab dialogue has been constrained by focusing solely on agriculture. For example, oil pipelines, fracking, and mining are ultimately a part of the same process of land enclosure. Brent points out in her article that land grabs reflect a much larger scale of territorial restructuring than land based investments by other industries. The large territorial expansion that characterizes the global land grab brings with it the expansion of scientific ideology—as was argued by Wolford. When vast tracts of land are purchased by a single entity, they can only be brought into production by that single entity through industrial means of production.

Conclusion

All three authors agree that large-scale land acquisitions are inadequate—if not detrimental—to increase the vibrancy of the global food system. However, there is a counter-narrative to this claim, which suggests that land grabs may create opportunities for positive livelihood developments (Cotula, Vermeulen, Leonard, & Keeley, 2009; Ridell, 2013). The claim that land-based investments could lead to positive livelihood developments suggests that as the legacy of colonialism expanded to encapsulate the globe it left many people in a state of permanent marginalization. When colonizers divided the globe, they only left power in the hands of a select few, and merely introduced many rural people to a system for which their livelihood was mismatched. This has left some small-scale producers without the ability to fully embrace either their traditional livelihoods, or a market economy. This narrative, therefore, would suggest that land based investments could be a key component of development in the global south, and that dispossessing people of their land can be rationalized if it creates opportunities for higher waged labor. This narrative further justifies dispossession in that it disagrees that agro-ecology and smallholder agriculture is sufficient to supply the world with adequate quantities of food (Ridell, 2013). However, authors who have argued that land-based investment could be used to better the livelihoods of marginalized farmers acknowledge that their optimism is contingent on an appropriate system of regulation and governance (Cheru & Calais, 2010). While these points are

arguable, they need to be considered when discussing the global land grab, and this conference session did not engage explicitly with this approach to the debate.

The pace with which the theoretical component of the land grab discussion is continuing has far exceeded the case-based component of the dialogue and we should be cautious of this. Theory can create the dominant prism through which we conceptualize a topic, and this could lead research to view land-based investments solely through a “land grabbing” prism. If the theoretical component of the land grab debate, which argues that land grabs are purely focused on capital accumulation, accelerates too quickly without being built on a strong foundation of case based-research, it could find itself relying on false assumptions and producing inaccurate conclusions about global processes. While Wolford and Brent did provide case based studies, future case studies should explicitly ask what it is that those who are dispossessed of their land would prefer: opportunities for waged labour or access and the right to practice smallholder agriculture. Seldom is this question asked in the research methods of existing literature. Explicitly addressing this question will allow the debate to further consider, or put to rest, the notion that land based investments could represent an opportunity to better some rural livelihoods.

To conclude, we should return to a point that was raised by Akram-Lodhi: there is no reliable database, or systematic way to analyze and quantify the scale of the land grab. A characteristic of the global land grab is that we cannot see how land is being used as a new frontier of ideological expansion because the phenomenon cannot yet be reliably mapped. That being said, and considering that multiple narratives need to be taken into account when discussing the land grab, there is need for more case-based empirical research and large number surveys on what has come to be known as “the land grab”.

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Special Issue: Mapping the Global Food Landscape

Section VIII

Financialization in the food system

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There is growing concern about financialization in the food sector, which refers to the increasingly important role played by financial actors, markets, and motives in decisions along agrifood supply chains. Financial actors have long been intertwined in the agriculture and food sector, but their activities have intensified and have become more complex in recent decades. Seeking financial returns, these investors are engaged across entire agricultural value chains, from production to retail. As their engagement in the sector expands, their presence has shaped and reshaped the agrifood system from production to retail and all activities in between. The papers in this section provide important angles on the implications of greater financial activity within the agricultural sector.

With a focus on the rise of finance across entire agricultural value chains, Myriam Vander Stichele shows that this trend has had a profound impact on the global food system in ways that inhibit its ability to provide adequate nutrition for all. She makes the case that financial regulation should be on the menu of food system governance. Oane Visser takes a closer look at the role of financial investment in farmland and argues that such investments have had the effect of locking in large-scale industrial farming methods that have enormous social and ecological implications. But, as he shows, such investments often fail, and it is important to examine these cases if we wish to fully understand the financial dynamics in the sector. Focusing on the rise of index insurance schemes, S. Ryan Isakson shows how these financial tools have gained in

popularity as a strategy to mitigate the risks of farming. His analysis shows that such schemes have not delivered, and have had the effect of increasing farmer vulnerability, rather than reducing it.

A number of themes are common across the papers, as Sarah Martin highlights in her synthesis essay. The mismatch between short-term financial imperatives and long-term farming needs demonstrates that the relationship between finance and food is fragile, fostering vulnerability when not kept in check, highlighting the need for state regulation as opposed to voluntary governance mechanisms. Alternative finance and investment instruments, if properly supported, may hold promise as means by which to mitigate risks.



Section VIII

Financialization in the food system

*Special Issue: Mapping the Global Food Landscape***How financialization influences the dynamics of the food supply chain**

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The growing interlinkages between the financial and agrifood sectors have to a large extent shaped the dynamics in the latter, from land ownership to food retail. This article describes the different ways and means, and ever deeper levels of financialization that continue to develop. The dynamics resulting from this financialization of the food supply chain pose serious challenges to the key function of the agrifood sector—to provide nutritious food to as many people as possible in an environmentally and socially sustainable way. To restore this main function of the food sector, this article suggests that it is important to bring changes in the financial sector.

Prioritizing short-term financial profits: The dynamics of the stock market

A first basic element of financialization has been the listing on the stock markets of many companies that produce, trade, and distribute seeds, inputs, agricultural produce, and processed food. By selling their shares on a stock exchange, these companies subject themselves to pressure from shareholders and financial advisors to increase the value of their share prices and dividends. “Walls of money” from individual and institutional investors aim to achieve the highest possible returns and consider the profitability of socially and environmentally useful investments to be highly uncertain. Even private pension funds that endeavor to invest sustainably need to legally prioritize a secure rate of return (in order to pay out pensions) over

avoiding negative social and environmental impacts. A growing number of companies report on environmental, social, and governance aspects in ways that are mostly separate from their regulated financial accounts, often simply concerning the management of these aspects while only selectively reporting on-the-ground impacts. Agrifood companies, however, overwhelmingly focus their communication on high financial profits because they know that when their share value fails to live up to shareholders' expectations, they become susceptible to being acquired by competitors. As a result, the pursuit of short-term profits and the interest of financial stakeholders are prioritized at the expense of other non-financial stakeholders' right to food, decent work, and healthful food consumption (Anderson, 2009).

The way this kind of financialization challenges the core functions of the food system is illustrated by the emphasis on short-term financial profits and the fear of being acquired, which in turn have spurred companies to pursue a business strategy of expansion. The larger the company, the more bargaining powers it has to squeeze profits out of the weakest links in the agrifood supply chain on either the buyer or the seller side. This in turn can initiate a vicious cycle of ever more integration, concentration and large-scale production, processing, trade, and retailing (McCarthy et al., 2014). In their efforts to expand market share and financial profitability, food processors have been known to implement strategies of increasing sales through omni-present foods, in the worst case targeting children through deceptive advertisements with the goal of selling addictive sugary, salty, and fatty (cheap) processed food (Isakson, 2014; see also Scrinis, this issue).

Another strategy employed by large food processors is to buy up their smaller-scale competitors. The targeted companies include those that offer more innovative socially and environmentally sustainable products (MacDonald, 2011). By acquiring these companies, the financial strategies of the large food manufacturers can put the dynamics and long-term viability of more sustainable production methods at risk. In the case of food retail companies, the larger and more concentrated they become, the more they can make profits by using abusive buying practices. In such circumstances, it is difficult for small farmers and small food suppliers to find outlets for their products. Indeed, the cheaper their food products are—with low pricing in the fruit sector often used as a marketing strategy to attract clients—the more clients supermarkets acquire, leading to more market share and profits (Vander Stichele & Young, 2009).

Agrifood businesses and conglomerates that are not listed on the stock market are also subject to the dynamics of competition, concentration, and focus on high financial profits (Murphy, Burch, & Clapp, 2012) as they have to compete against listed companies' strategies and operations.

Shaping the structure of the food supply chain

The financial sector also influences the structure of the food supply chain through its financial products, services, strategies, and players. Two examples are banks' lending practices and the

increasing involvement of investment funds in land acquisition. Both practices are serious challenges to small scale or agro-ecological farming, which are increasingly recognized as part of the solution to the current social and environmental pressures on the food supply (Silici, 2014).

Banks' lending practices

An obvious area in which the financial sector directly affects farmers is lending. Banks are reluctant to give loans to small farmers, as they consider them to be risky and non-profitable. When banks do provide loans, the conditions attached sometimes require farmers to invest in larger-scale farming in order to improve their profitability. In some egregious cases, banks have offered loans that include, without the farmer's knowledge, an interest rate swap, which is a speculative way to protect farmers against higher interest rates and can in fact result in losses for the farmer, as was the case in the Netherlands (Follow the Money, 2014). Debt burden on farmers has an enormous impact on their operations, their income, and their rights, as debt repayment is legally enforceable and is given the highest priority.

The many farmers who cannot be financed by banks must resort to alternative forms of financing, most of which are under unfavourable terms. Farmers can turn to agribusinesses for financial and hedging services, to contract farming, to long-term contracts with buyers and supermarkets, or to the derivatives markets (see below) in order to hedge against the risk of price changes. In none of these options do farmers have a strong bargaining position vis-à-vis the counterparty, making it difficult for them to protect their own interests (Vander Stichele & Young, 2009).

Banks' lending practices also have a considerable impact on the rest of the food supply chain. Banks rate large-scale businesses as less risky than small- or medium-sized enterprises. In other words, a food-processing conglomerate is more likely to receive a bank loan than a small innovative company, and a supermarket is more likely to receive a bank loan than the neighbourhood grocery store.

The dynamics of investment funds: Land ownership

Rising food prices and the prospect of food scarcity have made land and agricultural production a lucrative investment for financial players. Specialized investment instruments have been created to finance the large-scale acquisition and exploitation of land all over the world. In the case of illegal acquisitions—land grabbing as it is called—existing land or customary rights, as well as other human rights, are often disregarded. GRAIN (2012) listed the type of financial entities engaged in 35 million hectares of land grabs in 66 countries, which include a wide range of financial players such as hedge funds, private equity funds, insurance companies that manage their own assets, sovereign wealth funds managed by states, and investment management companies targeting institutional investors, including pension funds.

Hedge funds' and private equity funds' involvement illustrate the high pressure to make profits. To finance an operation, the funds tend to rely mostly on debt (with hedge funds using very high leverage ratios) as well as on rich investors attracted by the promise of high profits. The funds typically sell the land and financial assets after six to eight years—a short period of time compared with the lifetime investments that farmers put into their farms. High profits are needed to repay the loans and the investors, in addition to paying the typically high bonuses of fund managers. The emphasis on short-term financial gains results in practices that can easily lead to breaches in the rights of local communities and farmers, and provides few incentives to invest in long-term environmentally sustainable agricultural production.

Financial instruments that deepen the financialization of the food supply chain

A third element of the financialization of the food supply chain is the wide range of financial services, products, and investments provided by the financial sector that cause and support advanced financialization. The agrifood sector becomes the basis on which speculators bet billions of dollars, which contrasts with the problems to finance actual (ecological small-scale) farming. Food commodities become subjected to financial market strategies that are far removed from the realities and needs of the sector, as illustrated by the fund industry and commodity derivatives markets.

How the fund industry uses the agri-food sector

The stock market listing of various agriculture and food-related companies has allowed investment funds to invest billions of dollars/euros in the shares of the listed companies. The managers and marketers of these funds, often banks or asset management companies, attract investors with expectations of high financial returns. They are therefore only interested in companies that are likely to generate high financial returns and neglect the social and environmental performance of companies that are smaller or have lower returns.

One particular kind of fund is an exchange-traded fund (ETF), which issues shares that individual and institutional investors can buy (or sell) on a (specialized) stock exchange. ETFs can simply track a group of shares of agricultural companies, without the fund manager actively buying or selling those shares based on the economic performance of those companies. As with company shares, some financial players even speculate with the shares of ETFs.

Commodity index ETFs offer the return of the price of a commodity index, minus the fees for managing the fund's assets. The commodity index that such an ETF tracks is created by an investment bank (which earns fees from the index's intellectual property rights) and is composed of a basket of commodity derivatives (see below, usually a mixture of agricultural and non-agricultural commodities derivatives) traded on commodity exchanges, where prices are set

on a daily basis. These ETFs buy commodity derivatives directly, or indirectly (through a total return swap), on the exchanges. The majority of the fund's assets, however, are not commodity derivatives but other securities. These fund strategies increase the interconnectedness between the financial and commodity markets and are contributing to financial and speculative motives for derivatives trading rather than signals from the physical agricultural sector (Vander Stichele, 2012).

Agricultural commodity derivatives markets

Where there is price volatility and risk, such as in the agricultural sector, the financial sector sees opportunity, leading investors to become active in the agricultural commodity derivatives markets. Agricultural commodity derivatives are meant to be insurance instruments that allow farmers to protect themselves against price insecurity and volatility (“hedging”) and to get a loan from the bank that is not willing to take price risks. However, they remain speculative instruments that can result in losses for farmers if the bets made on the initial price go in the opposite direction. They are a financialization of the risk that farmers are left to confront individually while their counterparties include speculators that have huge resources to take the risk. Because physical agricultural markets are not regulated and their price setting is opaque, agricultural commodity exchanges have become important price benchmarks for many agricultural products.

Since 2000, when the U.S. commodity derivatives markets—used worldwide for hedging and pricing—were deregulated at the request of the financial sector (Fuchs, 2013), financial players have vastly outnumbered traditional hedging participants (agricultural producers, traders, processors, and end-users). Agricultural derivatives can also be traded off-exchange, i.e., bilaterally “over-the-counter” (OTC), which makes their trade more opaque and allows speculative strategies with the on-exchange traded commodity derivatives. Financial players such as hedge funds and investment banks are keen to see increasing prices of the derivative contracts they trade in order to resell them with a profit, without having the agricultural products delivered. They often only partly base their trading on knowledge of agricultural markets or agricultural production and consumption. Financial players can contribute to higher price volatility, thus undermining the integrity of the hedging and pricing functions of the agricultural commodity exchanges—even though they argue the contrary and academic studies are not conclusive (given the lack of information) (Vander Stichele, 2014). Politicians at the G20 were willing to curb food price speculation through derivatives markets after huge price spikes in 2006–08. Still, the financial sector was able to weaken regulation. For example, in the first attempt at regulation of agricultural commodity derivatives markets in the European Union, loopholes were inserted into the legislation (Vander Stichele, 2014).

Agribusinesses expanding into finance

Some investment banks have even become active in the physical commodity markets, which gives them access to first-hand knowledge to make their speculative strategies in commodity derivatives trading very profitable (Omarova, 2013). However of late, these banks have more and more sold off their physical and sometimes financial commodity departments, due to regulations amongst other reasons. Some of these units have been bought up by the commodity conglomerates (Hume, 2014), which might continue the speculative financial activities.

Therefore, a new trend of an even deeper financialization of the agrifood sector is that some agribusiness conglomerates, commodity houses, and even global food retailers themselves behave like financial actors. Some agribusinesses have developed separate business units through which they earn profits by engaging in, for instance, financial commodity derivative speculation, hedging services for their suppliers (farmers), providing loans, and other financial services (Murphy et al., 2012). Some even own hedge funds that provide investment services or use strategies such as buying-up land and speculating with commodity derivatives (Vander Stichele, 2012). Also some supermarkets, where most people in high-income countries shop for their food, are offering payment, credit, and saving services.

These developments make it more difficult to challenge the financialization of the agricultural sector that is now itself contributing to more speculative and financialization dynamics!

Next steps

In order to restore the key functions of the food sector, more research is needed on the whole range of influences the financial sector has in order to answer the question of how its dynamics counteract the needed solutions to social and environmental pressures that threaten the sustainability of the agricultural sector and the right to healthful food. Exposure of the distortive dynamics of profit-driven, short-term, speculative finance would reveal the financial sector's responsibility towards non-financial stakeholders, including small-scale producers, small-scale food processors and retailers, consumers, and the environment. It could contribute to reversing “distancing” (Clapp, 2014) in the agrifood sector, whereby its driving forces are not always knowledgeable about or interested in food production, nor held accountable for the impact they have.

So far, the focus of financial reforms has been almost exclusively on financial stability. Financial regulators and supervisors still need to regulate the financial sector to be at the service of the real economy, including in the agricultural sector, and to make (individual) investors more aware of their impact and more accountable for their actions. Some initiatives are already being developed, such as requiring banks to assess the social and environmental risks and impact when

providing loans, compulsory reporting on environmental, social, and governance (ESG) information—so-called “non-financial” information—with which shareholders can make more informed choices, and the development of indicators for investment funds to provide (individual) investors with more insight about the environmental and social impact of their investment. Many of these initiatives are in an early stage and could be promoted through more academic research to develop the indicators and impact assessments, as well as through public and political debates.

In order to escape the distortive dynamics of current financialization, new avenues to finance the agrifood sector are needed with long-term sustainable priorities. Alternatives are indeed being developed. For instance, in France, committed individual investors initiated a fund called “*Terre de liens*” to buy up farms from retiring farmers. This type of fund offers no promise of high returns and investors cannot easily withdraw from the fund. Instead, it focuses on the careful selection of farms and the surrounding land, creating, when possible, a direct link between investors and farm assets. The fund owners make farms available to (young or poorer) farmers for rent, supporting them in making their farming profitable but with sustainable agricultural methods. There are a growing number of initiatives for responsible investment or “impact investment” that aim at beneficial social or environmental effects as well as financial return. Research could map such initiatives all over the world, to allow them to be better known and assessed as potential solutions to the current lack of sustainable finance in the agricultural sector.

The increasing trend of ever larger-scale conglomerates, often combining agricultural and non-agricultural commodities while undertaking financial activities and strategies, require better regulations and supervision of trading and price setting in physical agricultural and other commodities. The rules or application of national anti-trust legislation and the lack of international anti-trust policies or rules need to be revised in light of the particular situation of the food sector. The trend of increasing concentration also raises the question of whether some of these commodity businesses have become too big to fail (Lane, 2012), especially when their financial services and speculative activities go wrong. More research about the different kinds of financial activities and their impact on the agricultural sector as well as on the financial sector—for example the shadow-banking sector—might provide some answers and guidance for policies, regulation, and supervision.

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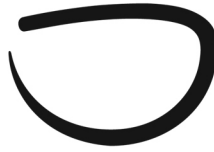
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Section VIII

Financialization in the food system

Special Issue: Mapping the Global Food Landscape

Small farmer vulnerability and climate risk: Index insurance as a financial fix

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By its very nature, agriculture is a risky endeavor. Farmers not only face natural threats from pests, plant disease, and inclement weather, but many must also worry about fluctuating input costs, uncertain prices for their output, and, ultimately, their ability to repay debts and support their families. The growing incidence of extreme weather events and the rising volatility of agricultural commodity prices has greatly exacerbated the vulnerability of farmers since the turn of the century. This is especially the case for poor farmers in the global South who lack the assets and state protections that help to insulate their more fortunate counterparts.

As elsewhere in contemporary society, the rising vulnerability of agricultural producers has piqued the interest of an ascendant financial sector that seeks to profit from the growing risks and uncertainty faced by individuals in the neoliberal era (c.f. Martin, 2002; Soederberg, 2014). Uncertainty about increasingly volatile crop prices, for instance, has spurred the development of a variety of agricultural derivative products that have been championed as effective tools for risk management by a broad contingent of actors, including financial enterprises, multinational organizations, development agencies, and governments from the North and South (Breger Bush, 2012; Martin & Clapp, 2015). Similarly, to mitigate the growing risks from weather-related events, private insurers—working in tandem with microfinance institutions and with the backing of the World Bank and other major development actors—are increasingly promoting weather insurance among small-scale farmers in Africa, Asia, Latin America, and the Caribbean. This paper considers the latter type of financial intervention, focusing specifically upon a new product known as index-based agricultural insurance (IBAI). The novelty of IBAI is that it links

indemnity payouts not to the actual losses that farmers suffer in their fields, but rather to environmental measures that serve as a *proxy* for loss, such as rainfall, temperature, wind speed, or the remote sensing of vegetation. In this article, I argue that even though index insurance can help to reduce some of the risks faced by participating farmers, the associated financialization of risk management can compromise existing social and environmental practices that have long underpinned the security of agrarian livelihoods. Additionally, the adoption of IBAI may heighten farmers' exposure to new forms of economic and environmental stress, ultimately exacerbating their overall vulnerability.

New risks

Historically, farmers have managed risks through a combination of traditional agricultural practices, community institutions, and state supports. In their fields, for instance, farmers have mitigated risk through the practice of “diversity management” and the use of crops derived from endemic plant species that are relatively resilient to local stresses. That is, they have planted a variety of crop species that are typically native to their growing environment (inter-crop diversity), using a diverse array of seeds for each crop species (intra-crop diversity), and often dispersing their production across multiple, non-contiguous plots of land (habitat/spatial diversity) (Bellon, 1995; Brush, 2013; Ahmed, this issue). Farming households have also complemented diversity in the field with the diversification of livelihoods, engaging in a variety of economic activities to help ensure a constant stream of income (Ellis, 1998; Isakson, 2009). At the community and regional levels, agrarian societies have developed “moral economies,” patterned upon reciprocity and redistribution, which have served to disperse risk across households and over time (Scott, 1976).

Colonial practices and forced integration into state-wide and global agrifood markets undermined—but certainly did not eliminate—these traditional risk-management strategies in many areas of the global South, promoting ambivalent market relations over the guarantees of moral economies and export crops for the European Empire over local crops for domestic consumption (Davis, 2001; Watts, 1984). To protect their farmers from international competition and the uncertainties of the globalized food markets into which they had been inserted, many Third World governments followed the lead of the United States and other global powers and implemented trade protections, price supports, and other protective measures, only to have them dismantled under the neoliberal restructuring of the 1980s and 1990s. These pressures, combined with the simplification of landscapes resulting from agricultural modernization and corporate concentration in agrifood supply chains, have rendered contemporary farmers particularly vulnerable to economic stress and environmental hazards (Clapp, 2012; Watts & Bohle, 1993). The recent conjuncture of food price volatility and climate change—the so-called “double exposure”—has brought the precarious situation of farmers, particularly small-scale farmers with few assets, into sharp focus (c.f. O'Brien & Leichenko, 2000).

Of course, farmers are not the only actors facing new risks in contemporary society. Indeed, the developments in agriculture are part of a broader trend wherein modern day citizens no longer benefit from the right to security that was previously guaranteed by Fordist employers and Keynesian welfare states. Instead, they face a world of uncertainty in which they are individually responsible for managing risk. This is part of the familiar narrative of the “risk society” in which the uncertainty of livelihoods and social reproduction has been privatized (Beck, 1992; Hacker, 2008; Maurer, 1999; Soederberg, 2014). The heightened uncertainties within this society represent new openings for the speculative activities (i.e., gambling) of finance capital. Whereas states and community-based institutions had previously helped to mitigate risks, individuals are now expected to manage them through the purchase of financial instruments. Randy Martin (2002) and others have referred to this development as the “financialization of daily life,” or the process wherein the relations between people and things are transformed into relations that motivate or require financial logics and transactions (c.f. Johnson, 2013).

In agriculture, the World Bank and other prominent development actors have promoted the financialization of daily life under the agenda of “financial inclusion,” or the idea that democratizing access to finance capital through microfinance and other schemes is an adequate—and indeed superior—alternative to the inefficient and corruption-prone guarantees of the regulatory welfare state¹ (Cull, Ehrbeck, & Holle, 2014; Roy, 2010; United Nations, 2006). The most prominent example of this, of course, is the promotion of microloans that will ostensibly improve poor farmers’ access to productive capital, thereby unleashing their latent entrepreneurial potential while spurring pro-poor economic growth. Yet the promotion of index-based agricultural insurance also falls under the rubric of financial inclusion and, as such, increasingly figures in contemporary development initiatives.

Advocacy for index insurance

As noted above, index insurance is different from traditional agricultural insurance wherein indemnity payouts are based upon actual crop losses. Instead, under IBAI, payouts are based upon the value of an index of objective measures that are correlated with agricultural performance (e.g., rainfall, temperature, wind speed). Skees and Collier (2008) provide a helpful example:

Consider a drought index insurance contract that pays an indemnity anytime that cumulative rainfall during a critical two month period of the growing season is less than 100 millimeters. Indemnity payments would increase proportionately as the measure of rainfall declines until a pre-specified limit is reached.

¹ Susanne Soederberg (2014) refers to this transformation as the rise of the “debtfare state.”

For example, the maximum indemnity will be paid whenever cumulative rainfall is less than or equal to 50 millimeters. In this example, the contract is said to have a threshold (or strike) of 100 millimeters and a limit of 50 millimeters (p. 6).

The practice of tying indemnity payments to such indices is relatively new. Its origins can be found in the international weather derivatives markets that emerged in the late 1990s and allow commercial enterprises to hedge against the potentially adverse effects of weather on their business practices (Skees, Hazell, & Miranda, 1999; World Bank, 2011). Indeed, index insurance is more akin to a financial derivative than conventional insurance. Policy holders are, in fact, betting on the weather and other natural events rather than insuring against actual crop loss (Johnson, 2013). No claims adjusters visit the fields of farmers who hold index insurance policies. Depending on index measurements, policy holders might receive an indemnity payment even when they do not suffer a loss or, conversely, they might not receive a payment when they do. The fact that indices can vary from actual crop performance is known as “basis risk,” which can be quite high and must be borne by the policyholder if IBAI is to be financially viable (Collier, Skees, & Barnett, 2009).

Despite the uncertainty posed by basis risk, there are a number of purported benefits ascribed to index insurance. For insurers, IBAI: (1) reduces the transaction costs of verifying losses; (2) resolves the problem of “moral hazard”, wherein policyholders alter their behaviour in order to receive a payout; and (3) decreases the problem of “adverse selection” in which insurance is inordinately purchased by those exposed to higher-than-average risks. By resolving these problems, index insurance is commonly understood as a superior alternative to conventional agricultural insurance, which has been condemned as an inefficient institution in which the social benefits are not justified by the costs (Hazell, 1992). Moreover, IBAI is touted as a pro-poor initiative that expands opportunities to small-scale farmers who are often excluded from insurance markets. Buyers of indexed insurance policies do not have to prove their ownership of assets and, by eliminating the need for loss adjustments, the practice makes it more affordable to insure small plots of land (Johnson, 2013; Skees & Collier, 2008). Index insurance is thus often understood as a type of micro-insurance that advances the development objective of financially including the rural poor.

Touting its purported benefits, a variety of development actors have championed IBAI. Programs have been sponsored by a number of major governmental agencies (e.g., U.S. Agency for International Development, German Agency for International Cooperation) and non-governmental development agencies (e.g., Oxfam, Mercy Corps). These organizations often work in tandem with governments from the global South, and market and manage their products through microfinance institutions, with backing and technical support from traditional financial institutions including major international reinsurers like Swiss Re. The World Bank’s International Financial Corporation (IFC) has been one of its biggest promoters. Through its Global Index Insurance Facility (GIIF), the IFC provided index insurance to nearly 650,000 farmers for a total portfolio of US\$119 million between 2009 and 2013 (IFC, 2014). Since the

turn of the century, GIIF and its counterparts have launched more than 35 programs throughout the global South. Many more pilots are in planning and there is talk of scaling up existing initiatives (Johnson, 2013; Peterson, 2012).

IBAI also figures as a prominent strategy in the FAO's call for "Climate-Smart Agriculture" (FAO, 2013). It has also caught the interest of major agro-input suppliers. For instance, Syngenta Foundation, the nominally philanthropic arm of the Swiss agrochemical giant, launched a weather-based product in Kenya in 2009, which it later spun-off as a private business in 2014. For its part, Monsanto purchased The Climate Corporation in 2013, a weather insurance underwriter, and is now planning to develop index insurance products for Indian and South American farmers (Gilbert, 2014).

Possibilities and limitations

Despite the widespread enthusiasm for IBAI, results from many projects have been disappointing. To be sure, some programs have generated real benefits. An index insurance program administered by Oxfam and funded by Swiss Re and the Rockefeller Foundation, for instance, was found to improve the resilience of Ethiopian cereal farmers to drought, albeit in a palliative—rather than transformative—manner (Madajewicz, Tsegay, & Norton, 2013). Yet for many programs, farmer participation has been disappointingly low, at least from the perspective of promoters and providers (Da Costa, 2013; Gehrke, 2014). A handful of studies have speculated upon the reasons for the low uptake rate. Former World Bank economist Hans Binswanger-Mkhize (2012) has argued that well-off farmers are unlikely to purchase index insurance since they have sufficient social and economic resources to self-insure, while poorer farmers are unable to buy in since they lack the resources to do so. Consequently, he maintains, index insurance does little to benefit those in need. In India, lagging demand has been attributed to the financial ignorance of small-scale farmers, so insurance brokers and other actors who stand to benefit from the marketization of risk management have engaged in far-reaching discursive and pedagogical interventions aimed at teaching farmers the "rationality" of insurance and "structurally adjusting culture," all with the aim of creating effective demand (Da Costa, 2013). Yet the fact that such rationalities are still not forthcoming suggests that the small-scale farmers who are the target of IBAI initiatives may have suspicions about the commodification of risk management and its disembedding from existing socio-ecological contexts.

Indeed, while the challenges associated with the implementation of IBAI raise important questions, so does the impact of such initiatives upon farmer vulnerability. How does the adoption of index insurance reshape farmers' agricultural practices and risk-management strategies? Rather than reducing small-farmer vulnerability, might the use of finance-based products like IBAI exacerbate it? There are at least two reasons that it might.

First, IBAI is championed as a means for modernizing—and thereby simplifying—the agricultural practices of small-scale peasant farmers. Small-scale farmers operating on the

margins have long shown reluctance to adopt modern agricultural technologies since, among other reasons, the certainty offered by diversity management and other “traditional” practices has outweighed the *potential* of increased yield/income but also of catastrophic failure (Lipton, 1968). Proponents maintain that index insurance will enable subsistence-oriented farmers to forgo such “risk rationing” and to improve the efficiency of their operations. They suggest that it will also make farmers more credit-worthy, allowing them to acquire loans for the purchase of modern inputs and become more fully integrated into global agrifood value chains (Skees & Barnett, 2006; World Bank, 2011). However, modern seed varieties and commercial crops are often less resilient than locally derived seeds and plants and more susceptible to environmental hazards. Moreover, even if index insurance decreases the risk of financial loss from weather-related events, the modernization envisioned by its proponents would likely increase farmers’ exposure to market risk. That is, decreased environmental risks might be accompanied by increased economic risks. Index insurance does nothing to protect farmers from rising input costs or volatile output costs. Nor does it guarantee that the price of insurance premiums will not rise over time. Indeed, premiums are likely to increase in tandem with the probability of weather-related hazards, meaning that once farmers have adopted modern practices under the protections offered by index insurance, they may find that they can no longer afford such protections when they most need them (Johnson, 2013; Peterson, 2012).

Second, the adoption of index insurance could also exacerbate farmers’ vulnerability by transforming the social means for managing risks. While moral economies may not be as vibrant as they once were, informal practices for pooling risk across households and over time are still prevalent in many agrarian societies. Oftentimes, these practices are tied to the cultivation of local staples that have little value in national and/or global markets. Adopting modern seeds or commercial crops may preclude farmers from participating in such arrangements. Additionally, the market relations that govern index insurance are ambivalent to the plights of farmers and lack the guarantees of informal social insurance arrangements that are patterned upon reciprocity and redistribution. Market institutions do not require sellers to feel compassion for buyers. By their very nature, they foster indifference (Bowles, 1998; Polanyi, 1958).

In short, low uptake rates suggest that the recent explosion of index insurance programs has done little to mitigate the increased vulnerability faced by farmers who have lost state-backed social protections. The handful of farmers who purchase index insurance may find that the financial product mitigates some climate-related risks even as it increases exposure to different economic and environmental stressors. On the balance, however, participating farmers may be more vulnerable than before. This leads one to question whether there might be a better alternative to help farmers cope with their double exposure to climate change and globalized and corporate-dominated agrifood markets.

An obvious—but only partial—solution would be to resurrect the commodity boards, trade protections, and other state guarantees that prevailed in many countries prior to the roll-backs of neoliberal restructuring. At the very least, such changes would create a more predictable and supportive economic context. Yet in the past, many of these policies supported the adoption

of Green Revolution agricultural practices that increased yields in the short-run but ultimately undermined the productive base of agriculture and fostered a simplified agricultural landscape that is more susceptible to natural hazards (Taylor, 2015). Protecting farmers against the risks of climate change and other weather related events will require the (re)introduction of agro-ecological practices like matching cropping patterns to the qualities of the local landscape, diversifying crop species and varieties, and minimizing the use of agro-chemicals. Such practices have been empirically linked to the greater resilience of agro-ecosystems and agrarian livelihoods in the face of hurricanes and other environmental hazards (Holt-Giménez, 2002; Lin, 2007; Rossett et al., 2011). Agro-ecology is dynamic. It appreciates and integrates the knowledges that agricultural producers have developed through their intimate interaction with place-specific natural processes over time and it encourages the sharing and adaptation of those knowledges across space (Friedmann, this issue). Moreover, given that agro-ecology emphasizes the use of on-farm resources, it also promises to reduce farmer debt, thereby contributing to the financial liberation of agricultural producers and enhancing their overall sovereignty (Akram-Lodhi, this issue; Snipstal, this issue).

Though many well-intentioned actors have promoted index insurance as a means for managing contemporary agricultural risks, its use may be counter-productive. In this article, I have suggested several reasons why this might be the case, but empirical research is necessary to address a number of unanswered questions. For example, how, in fact, does the expansion of index insurance impact informal risk sharing arrangements? By tying protections to the modernization and commercialization of farming, does it compromise the resiliency of agricultural practices and expose farmers to new risks? How might this have an impact on the overall vulnerability of small-scale farmers? Do agro-ecological practices represent a superior alternative? Can financial instruments complement rather than undermine existing risk management strategies? Answering these questions will help to elucidate whether index insurance can genuinely help farmers manage expanding climate risks or whether it is a misplaced and insufficient financial fix to deeper structural vulnerabilities.

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Section VIII

Financialization in the food system

*Special Issue: Mapping the Global Food Landscape***Finance and the global land rush: Understanding the growing role of investment funds in land deals and large-scale farming**Oane Visser¹

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In the wake of the 2007–08 food crisis, we have seen the combined development of a rapid financialization of agriculture with the expansion of large-scale corporate farming through large-scale land deals, in particular in developing countries and emerging economies. The rapidly growing appetite for agriculture among financial investors is driven by: mounting risks in “conventional” stocks following the financial crisis, the growing demand and prices for food, and the soaring subsidies for biofuel production. Whereas farming was long considered backward and financially uninteresting, with the new conjuncture in financial firms, a range of farmland settings are now seen as a new, promising frontier of finance.

Important questions arise from these developments. What is the magnitude of the involvement of the financial sector in the farmland rush? What kind of financial actors are involved and how do they operate? How does the involvement of the financial sector change agriculture? And how viable are these investments economically? Contrary to common wisdom, which conceives these farmland investment projects as highly profitable, this article provides evidence of unprofitable and failed investment endeavours. It subsequently looks into causes of such failures, focusing on the intrinsic tensions of the investor-led farming model, and discusses implications for research and policy.

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Situating finance in the global land rush: Magnitude, mechanisms and actors

Until recently, the land rush debate focused predominantly on food security, wider geopolitical motivations, and the role of states. But the role of private actors and commercial motivations in driving the land grab is much more influential. Recent research has shown that the predominant actors acquiring farmland are in fact not the usual suspects in the media, such as states like China and South Korea, but rather companies from the West and emerging financial hubs in Asia such as Singapore and Hong Kong (Cotula, 2012). An inventory of media reports found that agribusiness companies constitute the largest share of investors, with investment funds also being key players (Deininger et al., 2011), showing rapidly increasing interest in farmland (Fairbairn, 2014; Isakson, 2014). By 2010 over 190 private equity firms were investing in farmland globally, with another 63 firms raising capital for such investments, with an aggregate target of US\$13.3 billion (Prequin, 2010). More recently, insiders from the financial sector have estimated overall private institutional investment in farmland at 30 to 40 billion dollars, with the potential to rise to US\$1 trillion (Wheaton & Kiernan, 2012).

Investors looking for ways to invest in farmland can do so through a variety of vehicles, such as large investment banks, hedge funds, private equity funds, publicly listed agricultural companies, and private and publicly traded real estate investment trusts (REITs) (Daniel 2011; Merian Research & CBRM, 2011). Initially, wealthy business families or endowments were the major contributors to such investment vehicles, but increasingly large institutional investors such as pension funds and international development banks invest in these funds (ibid). From outside the financial sector, large food traders (the “ABCD” traders like Cargill) and other commodity traders increasingly invest in such vehicles and have set up their own ones (Murphy, Burch, & Clapp, 2012).

Finance and agriculture: Gaps in the current state of knowledge

In studies on the land rush and the expansion of large-scale farming, the focus is mostly on the land acquisition process itself and the effects of the large-scale land deals in terms of socio-economic effects for small-scale farmers, as well as the related issue of food security and food sovereignty or their environmental impact. The role of finance is mostly addressed as a macro-economic background or context, whereas research analyzing the connection between financial and farmland investment empirically is rare (notable exceptions are Daniel, 2012; Fairbairn, 2014).

Whereas most media, NGO, and scholarly attention has focused on land deals in Africa, the continent where the state-led land rush by China and the Gulf States is most pronounced, the financial sector has predominantly targeted farmland in emerging economies where large-scale

agriculture and rural infrastructure is more developed, in particular South America (Brazil, Argentina) and Eastern Europe (Romania, Russia, Ukraine) (Visser, 2014; Watson, 2010).

Investment funds and the rise of large-scale farming

That agriculture is ripe for investment is not immediately apparent. For farms to become assets attractive for the financial sector, there is a need to scale up their operations, in order to: (1) allow the introduction of new technologies to increase productivity, reduce production costs, and achieve economies of scale; and (2) allow sizeable amounts of money to be invested in one go (i.e., with low transaction costs).

The strategy of private equity firm EmVest operating in Africa is quite illustrative of the first point. The firm aims to increase yields “based on the introduction of modern farming techniques and technologies...while agglomerating farms to increase efficiency and generate economies of scale” (Daniel, 2012; Emergent, 2011).

Second, most financial actors have minimum investment thresholds to enter a business. Private equity funds normally enter only with investment of at least US\$1–2 million (Middler, 2008). Large institutional investors such as pension funds and international development banks such as IFC and EBRD require an even larger scale for their investments (Luyt, 2013). A Swedish agrifood company operating on 20,000 hectares of land in Ukraine, which tried to get financing from the EBRD, was told to come back when they would have a size of 100,000 hectares or higher (Kuns, Visser, & Wästfelt, 2014). In sum, farmland acquisitions by the financial sector tend to generate a drastic enlargement of farm size.

Is large-scale farmland investment actually profitable?

Investors, investment brokers, and media predominantly stress the huge profits that can be made through farmland investment. However, this article argues that there is a serious danger of taking at face value the investor discourse celebrating the juicy profits to be made from farmland investment or in reading it as reflecting the real state of affairs (Visser, 2014). The growing pressure on the supply of farmland through urbanization and climate change, and rising demand for farmland due to a growing population, change to more high-value diets, and expanded biofuel production, are among the factors mentioned by investors to suggest a growing global scarcity of land (Li, 2014; Visser 2004). Based on these global trends, it is subsequently argued that there is a strong business case for profitable large-scale farmland investment. Although undoubtedly there are regions and sub-sectors where farmland investments are profitable—and sometimes very profitable—such results are contingent on a whole range of favourable conditions being in place in a particular locality and investment project. As a result, the simple adage among

investors, “land is getting scarce, so buying farmland cannot be but a profitable investment” (Li, 2012, p. 1), is inaccurate.

It is relevant to briefly examine some examples from various continents of farmland investments that did not fulfill early expectations and/or failed. In Africa, “there is mounting evidence of failed land deals” (Cotula, 2012, p. 675). The private equity farmland fund Africa Invest, for instance, with five farms covering over 2000 hectares in Malawi, won two major business awards. Nevertheless, after disappointing harvests for all of its crops, and unable to pay back its loans, the company saw its CEO step down, and was in danger of bankruptcy without a major external capital injection (Merian Research & CRBM, 2011, p. 28–29). In Indonesia, none of the planned farmland acquisitions by companies from the Gulf States have led to functioning farms (Bakker & Nooteboom, 2014). In the U.S., despite rising crop and farmland prices in the years following the food crisis, the share price for Farmland Partners and Gladstone Land (the first land investment fund in U.S. farmland that is listed on the stock exchange) has been volatile, indicating investor uncertainty (Stevenson, 2014). Also, in Brazil, where land prices are booming, revenues have been very volatile. Adecoagro, for instance, one of the large Brazilian agro-companies (with billionaire George Soros as major shareholder), had a profit of US\$28 million in 2011, preceded by a huge loss of US\$70.6 million in 2009 (Peaple, 2011). Currently, numerous investors in Brazil’s large-scale sugar plantations are in dire straits. In Russia and Ukraine, the majority of the foreign farmland investments are loss-making to date (Kuns et al., 2014; Luyt, 2013; Visser, 2014). Also more widely in Eastern Europe, seven out of eleven large Danish agricultural investment projects were loss making (Jyllands Posten, 2010).

Land rush dynamics and the tensions of finance-led farming

Although the precise mix of causes for such failures may vary, some more general causes can be distinguished. These relate to the boom characteristics of the farmland rush as well as the intrinsic tensions of the current finance-led farming model. Digging deeper into these factors helps to provide a better understanding of such failures.

Causes related to the boom dynamics are the tendency among investors to prioritize a rapid entrance in the market (instigated by the “first mover advantage”) (Li, 2012) over a more gradual approach of testing the waters and expanding gradually. Further, there seems to be an aspect of “herd behaviour,” in which some investors with very little knowledge of agricultural markets and the countries at stake copy the strategies of early movers.

The intrinsic tensions include, for instance, the friction between the “land banking” approach (a business model focused on land appreciation or speculation) and the operational approach, aimed at gaining profits from farm operations. Those two approaches are mostly presented as nicely complementary, but in reality a strong orientation on land banking can go ahead at the cost of viable farming operations (Visser, 2014). The focus on land banking can lead to the prioritization of acquisition and registration of land over developing productive operations,

in terms of time spent by the management and finances invested (Kuns et al., 2014). Further, a strategy of land banking tends to lead to rapid expansion of landholdings when land prices are still low. This may lead to land acquisition decisions driven mainly by the price and availability of land, instead of by well-informed choices from a productive view, such as the fit of land plots in the company's overall landholdings (ibid). Another tension is caused by the huge size of agro-companies required by large institutional investors and the localized nature of farming (Kuns et al., 2014). This means that an increase in scale may not only bring economies of scale, but also increased complexity and monitoring costs and subsequent diseconomies of scale.

A major tension results from the mismatch between the investment horizon of the average investor from the financial sector and the time horizon (and cycles) of farming. The typical investment cycle of private equity and hedge fund investments (which also manage most farmland investment by public institutional investors like pension funds) is five to seven years, after which the company invested in is sold to a large investor or brought to the stock exchange. Agro-funds often promise a return on investment of 15 to 25 percent (Daniel, 2012). Such investment horizons and profit expectations often contrast with the dynamics of farming. Normally, there is just one harvest per year in crop production, in contrast to, for instance, the retail sector, which has a daily turn-around of inventory. The production-feedback-improvement cycle takes two years at minimum in agricultural production. If improvement involves some trial and error, which is often the case due to insufficient agricultural know-how among investors, it takes even longer. Due to the volatility of agriculture because of its weather dependency (reinforced by climate change), agro-investment projects also frequently face losses after the start-up phase.

Numerous investors celebrate a business model of bringing into cultivation “unused” land, in order to rapidly achieve considerable profits. This model of buying up very cheap “marginal” or “abandoned” land is based on the assumption of low start-up costs, and a sharp rise of land value after turning it into productive land. In reality, much of the marginal land is not so empty as it seems, with local dwellers using the lands and having (informal) entitlements, for instance for grazing animals or hunting and gathering (Visser, Mamonova, & Spoor, 2012; White et al., 2012). Consequently, land investors are confronted with costs to compensate or appease local communities, or lingering discontent and the potential for conflicts and litigation costs (see Li, 2015 on the social and political risks).

Another often underestimated expense of acquiring abandoned land is the cost of bringing such fields into production. With a longer duration of abandonment, this can easily be up to one or two decades in countries such as Russia and Ukraine; the expenses and time required to bring these fields into cultivation are therefore considerable (Visser, Mamonova, & Spoor, 2014). Bushes have to be cleared, the soil has to be recovered, and in the first year(s), unprofitable crops may have to be sown to recover the soil. In the above-mentioned countries, for land that was abandoned for a decade, it takes at least two to three years as a rule to get a reasonable yield, let alone perform according to ambitious global benchmarks.

Conclusion

This paper argues that the widespread notion that farmland investment is highly profitable and relatively low-risk is problematic. Investment in farming by investment funds is much more complicated than it seems at first sight, and various tensions are characteristic of the finance-led, corporate agriculture that is associated with large-scale land investments. Note that it is *not* argued here that there are no settings in which such investments are profitable and/or even meet the investor's expectations. What the limited available evidence so far suggests is that profitable farmland investment is *not* the solid, global trend that is often proclaimed.

In terms of lessons for further research and policy, this paper suggests that in addition to mapping the scale of land investments and analyzing the social and environmental impact, the economic viability of those investments also requires attention. Currently, only some media articles and investor-oriented reports pay attention to the latter, normally focused on the successful cases.

More research and reliable data would facilitate a more nuanced analysis of farmland investment, which goes beyond the celebration of successful cases (or the opposite, an *a priori* denouncement of such investments). Such an analysis, also showing the often overlooked tensions and subsequent economic risks of farmland investments, might be an effective tool in advocacy for a more prudent approach to farmland investments among both investors and policy makers.

It seems unlikely that a prudent, consistent approach could be based solely on the voluntary guidelines, principles for responsible investment, and other types of “soft law”. Whereas investors with a public reputation might be interested in applying these principles, there is a risk that short-term profit motives will override social responsibility considerations in the case of less publicly visible investors (Fuchs, Kalfagianni, Clapp, & Busch, 2011). State regulation thus also has a role to play. However, as state regulation of farmland investment becomes increasingly difficult due to the transnational nature of such investments (including, for instance, the use of offshore constructions), this would only be effective with regulation in both the host countries and the countries from which investments flow originate.

Sound regulation would also require more insight in the investment flows. More research is necessary to map such flows, and to distinguish, for instance, which types of actors are directly involved in farmland acquisitions and ownership, and which actors are secondary investors. Other important questions for further research are: In what contexts is investor-led large-scale farming economically viable, and when is it likely to lead to failure? What is the wider social and environmental impact of respectively failed and functioning farmland investment projects? In terms of the tension between the short-term investment horizon of the financial sector and the long-term dynamics of farming, an important question is: Who are the actors within the financial sector that take a more long-term perspective on farming? And what difference does that make in terms of sustainable and equitable agrarian development?

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Section VIII

Financialization in the food system

*Special Issue: Mapping the Global Food Landscape***The state of time in this financial moment:
Financialization in the food system—Synthesis paper**

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The three papers and workshop discussion draw attention to the various ways that finance and food come together through new financial actors and tools, and in new political contexts, or financialization in the food system. The term financialization began to emerge in the late 1990s and it is increasingly applied to a growing range of areas of daily life and the economy (Krippner, 2011; Martin, 2002). Food studies, and these three papers in particular, help to define the contours and impacts of financialization in the food and agriculture sector.

The direct impacts of finance are illustrated through the introduction of new products such as index insurance (discussed in Ryan Isakson's paper), new actors such as agrifood corporations (the focus of Myriam Vander Stichele's paper), and new targets of finance such as farmland acquisitions (as explored by Oane Visser). The indirect impacts, however, are often difficult to trace. For example, volatile food prices are linked to the increased speculative activity on commodity markets and in derivative markets, but there can be many "causal arrows" that fuel academic debates and divert attention away from issues of food security and securing the right to food (e.g. Sanders & Irwin, 2011). The interaction between food, agriculture, and finance can help to map out financialization, but a clear path that addresses the negative effects of financial actors has yet to be drawn.

Finance is shaping food and agriculture

The first theme that arises in all the papers is that finance is reshaping agriculture. It is critical to explain the structural dynamics and tensions of the food system because food is different from other commodities. The three papers map out direct routes of financial influence on food and agriculture. The routes include the role of supermarkets and financial derivatives, as Vander Stichele notes, new kinds of insurance that link farmers to financial actors and development in new ways, which are the focus of Isakson's paper, and the ways in which finance is placing demands on farmland, and in particular, shaping the size of farmland through "investor-led farming," as explored by Visser.

For food and agricultural corporations, finance works along all aspects of the agricultural supply chain and is expanding by leveraging new tools and services, which in turn expands financial-based profits rather than productive profits. For financial investors, the agricultural sector is presented as a site of long-term growth and short-term price volatility. These price dynamics are attractive to both pension funds and more aggressive hedge funds that are the cause of upwards of 60 percent of the daily turnover of trades—or market churn—as Vander Stichele explains. While shareholders in equity stocks can drive markets, the emergence of commodity index funds provides an easily accessed source of "diverse" income (Clapp, 2014). Through these investment vehicles, investors get exposure to commodities and fund managers have access to new revenue streams in areas that had been previously inaccessible to both groups due to regulation. The churn, whether from aggressive hedge funds or index funds, undermines the integrity of prices, which should not move based on a fund's prospectus, but instead on the elements of supply and demand. The result is that the increased activity of financial actors, often with the support of indexes and shareholders, is distorting the primary function of agriculture and food markets. Vander Stichele calls for alternative market arrangements because financial profits have displaced the right to food.

Financial interests gain footholds in the agrifood sector through both stock exchanges and commodity exchanges. Stock exchanges are driven to meet the short-term expectations of shareholders and this puts pressure on companies to produce quarterly profits. In turn, the rise of retailing monopsonies, or single buyers such as Walmart and Tesco, is driving a squeeze for profits along the entire agrifood supply chain (Burch & Lawrence, 2009). The larger the company and the bigger the market share it has, the more stable and less risky it is perceived to be by lenders such as banks (Hilferding & Bottomore, 1981). For example, Deutsche Bank Holland recently dropped 18,000 small accounts, including farmers, in favour of larger companies (Reuters, 2013).

Agribusiness as financial actors

The second theme examined in the papers is the ways in which large agrifood corporations are increasingly operating in the financial sector and drawing on financial activities as a source of profit. The 2007–08 financial crisis was in part brought on by shadow banking activities (Helleiner, 2011). Agricultural commodity firms such as the ABCDs have a foot in both productive activities and financial activities and are in a position to wield significant price-setting and market power (Murphy, Burch, & Clapp, 2012). The workshop discussion drew attention to how ABCDs' market, political, and institutional power may pose a systemic risk to financial and commodity markets. At the same time, financial institutions are increasingly involved in commodity trade, further eroding the regulatory line that was drawn between food, commodities, and finance (Clapp, 2014; Omarova, 2013). From investment banks to the ABCDs, and from financial institutions to agrifood corporations, the line between the “real” economy and the financial sector—specifically finance, insurance, and real estate (FIRE)—is becoming harder and harder to determine and in turn to regulate. The issue of both banks and large corporations being “too big to fail” is a serious concern leading to questions of who bears the risk.

Risk and exposure: Who is vulnerable and who is protected?

While the large firms, both public and private (Cargill and Louis Dreyfus remain in family hands), may be posing a systemic risk, other actors in agriculture and food are also already increasingly bearing risks. The structural shift in the economy has protected finance as profits in the sector increase, and has “downloaded” risk to individuals. As Isakson shows, new tools such as weather-based index insurance heightens the vulnerability of farmers, who are already bearing risks that were previously socialized and borne by the state. In some cases, the state is underwriting private equity firms so it can buy farmland as an investment (Agrimoney, 2014). As Vander Stichele highlights, walls of money “undermine the integrity” of markets as they slosh in and out of these markets, driving up prices and increasing price volatility, which in turn leaves poor food-importing countries further exposed to risk.

There is an ideational facet that financial actors attach to agriculture, which crowds out the influence of farmers. For example, agricultural conferences are increasingly dominated by investors seeking information (Fairbairn, 2014). Similarly, Vander Stichele states that farmers were being left out of important E.U. regulatory discussions on finance. After the 2007–08 crisis, the major U.S. banks' losses were socialized, which illustrates how concentrated financial services are risky and considered by regulators to be “too big to fail.”

Bridging finance and food

With all these financial impacts, both direct and indirect, what is the role for finance in agrifood? Credit is often required for farming, which raises the question: At what point does agricultural finance shift from a positive utility to a negative drain? What is a reasonable role for finance to play? Can investments help bridge the “mismatch” between finance and its demand for short-term profits, and the long-term credit needs of agriculture?

Agriculture is uncertain and finance seeks certainty. Crops may fail, or commodity prices may decline unpredictably, or both. Because of this uncertainty, agriculture has not always been attractive to finance. Farm loans may be required for seeds, fertilizer, or equipment for planting season, with the expectation that they will be repaid when the harvest is sold. But there is a high risk that the harvest might be poor or have a low monetary value—this makes it uncertain and risky. The state has long borne the risk of agriculture through various functions, but in recent decades the state is stepping back from this role (Clapp & Martin, 2014).

“Patient” capital was offered as a possible solution during the workshop, as an investment that was made for the long term. The FAO states that patient capital investors “are usually from the public sector (e.g. governments, development banks and sovereign wealth funds) or the non-profit sector, but some private companies such as ‘impact investors’ and ‘social investors’ also have longer time frames and their number is increasing” (Liu, 2013, p. 336). But patient capital is generally not profitable and is in fact often subsidized by donor money, reading more like a development program with consultants and pilot projects rather than investment per se. Patient and long-term investment must still offer returns to be attractive, otherwise it is unlikely that private investors would participate.

Limits of financialization

Are there limits to the seemingly ever-expanding influence of finance within the food and agriculture system? Isakson describes the low uptake of index insurance, which shows how financial tools are not adopted outright, even with extensive education efforts. In other words, financialization does not come “naturally.” Visser describes what he calls “diseconomies” of scale and the tension inherent in the mismatch between finance and agriculture. Industrial farming is not economically rational past a certain farm size (5000–6000 hectares), because the labour, fuel, and repair costs exceed the value of the commodities. The only reason a farm would exceed this limit would be because of the “demands of finance.” Private equity and institutional finance require large farms to attract investment (10,000–20,000 hectares) and “stapling” together a number of smaller farms has costs that cannot be covered. The recent super cycle of commodity prices has benefited large commodity farmers like corn producers in Illinois, but as commodity prices have declined it is estimated that they will lose US\$109 per acre in 2014 and US\$143 per acre in 2015 (Schnitkey, 2014). Much of this increased cost of farming is linked to

increased rent due to rising farmland prices. In turn, rising farmland prices are linked to increased investor and speculator interest (Fairbairn, 2014). At the same time, agricultural development projects are aiming for “financial inclusion” and defining groups of poor people as “unbanked,” leaving the distinct impression that finance sees frontiers rather than limits.

Finance is reshaping agriculture. However, the inherent contradictions in finance should also be highlighted. The promise of increased profits through finance may not be as fruitful as expected. For example, commodity index funds are not only churning commodity markets, but they are also not producing promised returns. There is compelling evidence that investment vehicles such as commodity index funds are not producing returns except for the managers, which has been described as “a kind of market failure” (Bhardwaj, Gorton & Rouwenhorst, 2014, p. 3128). As Van Stichele notes, hedge funds are finding it increasingly hard to make money, and there are indications that they are losing money. In addition, the pressure to report profits has led to Tesco, the world’s second largest retailer after Walmart, to overstate its earnings (Felsted & Oakley, 2014). Visser provided the example of how private companies in Russia took over agricultural operations because they can take a longer view and are not beholden to the short-term pressures of shareholders. As he commented in the workshop discussion, shareholders who were impatient with reports of droughts and other agricultural risks and were more concerned about profits went as far as to say, “that bullshit about weather—I don’t want to hear about that.” The ongoing market volatility combined with lower returns in global commodity markets may lead to a retreat in agricultural investment and more uncertainty.

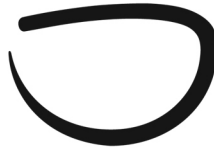
Conclusion

The longer-term impact of financialization in the food system plays out not only in the environment, but also does not bode well for the vulnerability of the financial system. This is because speculative capital and “walls of money” seek investment, and with investment comes increasing pressure on agrifood companies—both farmers and large corporations—to react and produce short-term profits. Isakson notes that financialization is an over-accumulation strategy to respond to the question of what can be done with accumulated money looking for a place to land. Workers have less money to buy goods, and so productive investment is not attractive. At present, money is churning through agriculture, but farmers are experiencing genuine agrarian debt. Isakson rightly asks us to dream outside of the structures that have been built up around the mentalities of finance. By identifying this moment, where finance and agriculture have come together in very particular ways, it means that the work of pulling apart some of the more harmful practices can begin, especially those in which the financialization in the food system is increasingly presenting its inherent contradictions.

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Special Issue: Mapping the Global Food Landscape

Section IX

Sustainable food systems and global environmental change

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There is growing evidence and concern of the role of mainstream industrial agriculture in contributing to environmental degradation and global climate change. In this section we examine three different aspects of the relationship between agriculture, nature, and society.

Tony Weis focuses specifically on the environmental and social impact of intensive livestock production and the increased meatification of diets. Framing his discussion around the problems with the “doubling narrative”—that is, the dubious call for the need to double global food production to be able to feed increased population levels—Weis eloquently questions the assumptions behind the seemingly unstoppable worldwide meatification of diets to argue for a major rethink of this trajectory and concludes by questioning what kinds of alternatives are needed if we are concerned about environmental and social sustainability and social justice. Carol Hunsberger then centres on another key response to and driver of global environmental change: the increased production of crop-based biofuels. Her paper analyzes the implementation of several strategies and policies that form part of the global governance landscape, and points to tensions between national and global rules and their failure to remedy key environmental and social problems. Faris Ahmed follows by exploring the dynamics, benefits, and potential of peasant agriculture to ensure sufficient worldwide food production and ecological sustainability.

Ahmed stresses the importance of socially just seed policies and governance structures, and the promotion of agro-ecology as mechanisms for increased biodiversity, which is central to peasant agriculture.

Helena Shilomboleni concludes by synthesizing the key debates, concerns, and alternatives raised throughout the section, which clearly point to the fact that agriculture is at a crossroads. She ends with a cautionary note relating to the human rights framework as an effective strategy.

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Section IX

Sustainable food systems and global environmental change

*Special Issue: Mapping the Global Food Landscape***Meatification and the madness of the doubling narrative**

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The rise of the doubling narrative and the contestability of dietary change

Since 2008, there has been an increasingly influential narrative that world crop production must (“sustainably”) double from current levels in order to feed over nine billion people by 2050 (FAO, 2009; Ray, Mueller, West, & Foley, 2013; Soil Association, 2010; Tilman, Balzer, Hill, & Befort, 2011; UN, 2009), which has been enthusiastically embraced by large agro-input and agrifood corporations. Four prominent drivers feature in this doubling narrative: the magnitude of persistent hunger and malnourishment; further human population growth; expanded biofuel production; and expected dietary changes. At first glance, this conveys the appearance of a sober, objective assessment about the fact that there are many people hungry today, that there will soon be at least two billion more people, that more land is being devoted to biofuels given the limits to conventional fossil energy supplies, and that people with rising incomes will keep eating more animal products in line with past trends, what I have called the *meatification* of diets.¹

However, positioning massive growth in production as the central problem facing world agriculture contains several troubling assumptions. At a basic level, the primacy given to aggregate supply can be considered a spin on the failed neoliberal promise that “a rising tide lifts all boats,” thus obscuring many other deep-rooted problems. These include: the long-term marginalization of peasantries, biodiverse farming systems, and local agro-food networks;

¹ Broadly speaking, this describes the movement of meat from the periphery of human consumption patterns, where it was for the vast majority of agricultural history, to the centre.

profound disparities in effective demand; and vulnerabilities associated with chronic food deficits in many of the world's poorest countries. One of the most crucial and misleading assumptions embedded in the doubling narrative is that the continuing meatification of diets is largely unstoppable. Rather than assuming this trajectory of dietary change is beyond contest, this article summarizes the case for challenging and reversing it, and why this must be a pillar of the efforts to build more sustainable and equitable food systems.²

It helps to start with some broad context. The average person on earth today consumes nearly twice as much meat per year (43 kg in 2012) as did the average person only two generations earlier (23 kg in 1960). During this period the human population leapt from roughly three billion people to over seven billion (Weis, 2013). On the current trajectory, there will be more than nine billion people by 2050, consuming an average of more than 50 kg of meat per year.

It is also important to recognize that meatification is extremely uneven and clearly reflects global inequalities. At the apex, the average U.S. citizen consumes roughly 120 kg of meat a year, whereas the average African consumes less than 20 kg and the average South Asian less than 10 kg (Weis, 2013). These consumption disparities also reflect how rising meat consumption is an underappreciated measure of and aspiration to modernity, nourished by long-held views about the superiority of animal protein, together with some potent cultural attitudes about meat. This can be clearly seen in the fact that increased per capita meat consumption is marked as an explicit development goal in countries such as China and Venezuela, and the rising affluence in fast-growing countries (with important class differences) is projected to have the biggest role driving meatification in the coming decades.

Yet when discussing meatification, we must be clear that there is no nutritional justification, as the overwhelming weight of research on diet and epidemiological patterns strongly correlates this trajectory with an array of negative health outcomes. In particular, the increasing consumption of animal products is a major force in soaring levels of obesity and many non-communicable diseases (NCDs), or so-called “diseases of affluence,” such as cardiovascular disease, Type 2 diabetes, hypertension, fatty liver disease, and some cancers.³ In short, in terms of consumption, meatification is first and foremost about palate pleasure and culture, not necessity or health. The demand for more meat in diets has been further fortified by a powerful economic motivation on the production side, as the cycling of feed through livestock has had a crucial function in profitably absorbing grain and oilseed surpluses, which has enabled their continuing growth when it would have otherwise devastated prices (Weis, 2013; Winders & Nibert, 2004).

² Where not otherwise stated, the discussion draws from Weis, 2013.

³ According to the *Global Burden of Disease Study*, poor quality diets – marked by high levels of unhealthy fats, salt, sugar, and refined carbohydrates and low levels of vegetables, fruits, and legumes – are the largest contributing factor to the magnitude of disease on a world scale, with diet-related NCDs responsible for 63 percent of deaths. Notably, the incidence of NCDs is rising fastest among rapidly industrializing middle-income countries (Lim et al., 2012; Popkin, 2009; Popkin et al., 2012; WHO, 2010).

The meatification of diets is entwined with soaring populations of animals and revolutionary changes in how they are raised. For the vast majority of agrarian history, small livestock populations were used in mixed farming systems for their labour and for milk, eggs, and flesh, grazing on rotational pastures, scavenging on the margins of farm households, and returning condensed nutrients to the land. In contrast, the industrialization of agriculture means physically disarticulating animals from land and mixed farming systems and concentrating them in dense enclosures, and rearticulating them through great volumes of feed from industrial monocultures. This system of agriculture, the industrial grain-oilseed-livestock complex, can be likened to islands of concentrated animals within oceans of corn, soy, and other monoculture crops; it occupies nearly one-third of the world's arable land. There are now more than 70 billion animals killed for food every year with roughly 70 percent of meat by volume from pigs and chickens alone. The industrial production of these two species, led by chicken, is expected to account for virtually all further meatification if it continues. As a result, the annual population of slaughtered animals would reach 120 billion by 2050, before counting fish.

The “ecological hoofprint” is a conceptual framework for understanding the expansive resource budget and multidimensional pollution loads of the industrial grain-oilseed-livestock complex on a world scale. At the basis of this is attention to how political economic imperatives (i.e., the pursuit of economies of scale and the pressure to substitute capital and technology for labour) shape the ways that productive environments are organized in both the oceans of industrial monocultures and the islands of intensive livestock, driving biological simplification and standardization at every turn. The pressure to biologically simplify and standardize productive environments creates or exacerbates a wide range of biophysical problems that must be continually overridden, which necessitates a series of resource-intensive inputs and generates an array of ecological costs, from persistent toxins to greenhouse gas emissions (GHGs).

The damaging impacts of the biophysical overrides in both industrial monocultures and livestock operations are greatly magnified by the inevitable wastage of large portions of useable nutrition in the metabolic processes of animals. This inherent inefficiency also means that the inequality of global meat consumption is tied to great disparities in the per capita consumption of grains and oilseeds. By extension, much more land area, water, energy, and other resources must therefore be devoted to agriculture, while much more pollution and GHG emissions are generated than would be the case if plant nutrition were consumed directly. Nutritional wastage increases further because the land currently given to industrial monocultures could be used more efficiently, in ecological and nutritional terms. The impact of livestock production on the atmosphere is a major reason why meatification not only reflects global inequalities but also serves to exacerbate them, as many of the poorest parts of the world will be most immediately and adversely affected by climate change.

In sum, there is nothing inexorable about the continuing meatification of diets. Rather than assuming the world will continue to funnel vast and growing volumes of grains and oilseeds down the nutritional drain of industrial livestock production, with destructive impacts on health and environments—to say nothing of increased animal suffering—scholars, activists, and civil

society organizations should be struggling to delegitimize this course. This means calling the doubling narrative into question, and exposing it for what it is: a way of mobilizing world hunger and food insecurity to brace continuing global market integration and deepening corporate control over land, technological innovation, and patented seeds and animal breeding stock.

Key challenges and policy directions

The ecological hoofprint helps show why reversing the trajectory of meatification and dismantling industrial livestock production are central to hopes for a more equitable distribution of the world's food supply, reducing agriculture's environmental impacts (including drastically cutting GHG emissions), and building more sustainable, equitable, and humane agricultural systems that are capable of improving conditions of food and nutrition security into the future. In a warming world with so much chronic hunger and malnutrition, which climate change threatens to make much worse and in which industrial livestock is so heavily implicated, there can be no justification for cycling useable nutrition through animals to inefficiently produce food. Radical changes are needed.

Radical activists and scholars have long wrestled with how to effect seismic shifts in thinking and mobilize support for systemic change. One of the most basic dilemmas centres on how much effort should go into pursuing incremental reforms as potential steps towards bigger changes, through realms such as public education, outreach, movement building, and policy advocacy. For some, this approach tends to waste time and energy on things that are too small, too easily co-opted, and too likely to placate people or distract them from the magnitude of problems and the need to build anti-systemic movements that might someday prove capable of reconstructing alternatives in more fundamental ways.

There are numerous examples of this radical-versus-reform divide among individuals and organizations working to challenge industrial livestock production. For instance, can “Meatless Mondays” trigger deeper shifts in consciousness and behavioural change, or are they more likely to satiate potential concerns at a minimal level? Can physical and technical alterations in factory farms, feedlots, and slaughterhouses—like “enhancing” battery cages, banning gestation crates, modifying loading tunnels, improving stunning procedures—mitigate the stress and suffering of farmed animals in meaningful ways, or are they bound to largely serve the interests of capital, reducing damage and wastage, and make it easier to mollify consumers so they will continue consuming animal flesh and derivatives at the same level? Can banning the sub-therapeutic use of antibiotics bring about substantive changes in the ways animals are raised, or is this more likely to affect feed conversion ratios and public health concerns than the nature of productive environments? On these and many other questions it is often hard to find much middle ground between some of the key opponents of industrial livestock production: on one side, farmers with small, free-ranging livestock populations, people fighting for improvements in animal welfare,

and self-described “conscientious omnivores”; and on the other side, militant vegans and people fighting for abolition to all animal use and property relations.

Yet there are also risks in assuming that reformist versus radical tactics are always mutually exclusive, which can serve to fracture rather than build anti-systemic consciousness and movements. This can also exaggerate how definitively we can know where various reforms could potentially grow and coalesce over time, leaving some to ignore prospects for realizable changes that might reverberate in unpredictable ways.

So with due caution about the prospects and pitfalls of reforms, I turn attention to a few reform paths that might help begin to confront meatification. Perhaps the best prospect for substantive reforms is to leverage the growing scientific consensus that strongly links rising consumption of animal products to increasing levels of obesity and NCDs. Nutrition science-based advocacy can stress the enormous public health benefits of plant-based diets and set these against enormous public health care costs and private expenditures on drugs, health insurance, and other services (Campbell & Campbell, 2006; Popkin, 2009). This can piggyback on the dynamic advocacy of behavioural change in favour of plant-based diets that centres on improving individual health and wellness, as evident in the popular documentary *Forks over Knives* (Fulkerson & Corry, 2011; Pulde & Lederman, 2014) and the writing and workshops of best-selling author Rip Esselstyn (2009; 2013). This advocacy might also take aim at national nutritional guidelines, which have long been powerfully and destructively influenced by large corporations (Nestle, 2007).

Another target is to encourage governments to apply excise taxes on animal products that would make them relatively more expensive than more healthful foods, like whole grains, legumes, roots, tubers, nuts, fruits, and vegetables, which can be justified by the strain that poor diets place on health care systems. This could follow on some recent efforts of governments to tax fatty and calorie-dense snacks and drinks in order to reduce their consumption, which were modeled on so-called “sin taxes” for tobacco and alcohol. The push for such taxation could be fortified by the economic case for costing GHG emissions with the unified messaging that dietary patterns that are bad for human health are destructive to the environment. Such efforts would have to stress valuation for real costs, as anything that hints of regulating diets would likely be a political powder keg.

On the production side, there are also a variety of policy mechanisms that might be targeted to deincentivize industrial livestock, and here also campaigns should flag the opportunity to simultaneously improve public health and environmental outcomes. A key objective for scholars, activists, and civil society organizations in this regard is to discredit the subsidy and regulatory regimes that have long helped brace cheap grain and oilseed surpluses. Instead, governments should be encouraged to re-orient agricultural subsidies, research, extension, and other supports towards the most ecologically efficient and sustainable ways of generating sufficient supplies of macro- and micro-nutrients, and to enhance the marketing infrastructure for the distribution of fresh and minimally processed plant-based foods.

I do not believe that most animal welfare reforms will in themselves reverse the course of meatification, following the critique that Gary Francione has made of welfare advocacy (including much of what calls itself “animal rights”). On the contrary, modest gains in this realm can be seen to contribute to further expansion, to the extent that they reduce unplanned deaths, enhance profitability, and wash over consumer concerns (Francione, 2008; Francione & Garner, 2010). However, if more people come to appreciate how animals suffer in these systems, along with their destructive ecological impacts, and connect these to the political economic imperatives that are organizing them, it could be an important part of a bigger, more radical awakening. To this end, praxis must be front and centre in future research.

Questions and areas for future research

We know enough about the pathology of industrial agriculture and the urgent need to transform it, but we need better answers to questions of strategy. Unfortunately, there is a pervasive unconsciousness that surrounds the dominant agrifood system, and the failure to shake this is a big part of why the doubling narrative can hold the sway that it does. Struggles to reverse this destructive course could benefit from research in the following areas:

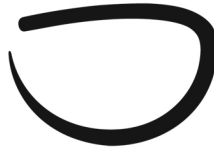
- 1) What policy mechanisms could serve to de incentivize industrial livestock?
- 2) How can public health and environmental impacts be marshaled to build political momentum for the re-orientation of agricultural subsidies, research, extension, marketing infrastructure, and other supports towards agroecological methods?
- 3) What new approaches to education, media, direct action, and movement and coalition building can help make the problems associated with industrial livestock production resonate much more broadly and deeply than they do now (and in both an intellectual and emotive sense, while taking cultural practices into account)?

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Section IX

Sustainable food systems and global environmental change

Special Issue: Mapping the Global Food Landscape

Learning from the failures of biofuels governance

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While many policies designed to increase the use of biofuels were promoted at least in part as a climate change solution, biofuels made from agricultural crops are increasingly seen as part of the problem when considering global environmental change. Research on the greenhouse gas emissions associated with biofuel-related land use change (Hertel et al., 2010) and fertilizer use (Melillo et al., 2009) challenges the idea that biofuels are automatically low-carbon fuels. Major crops that can be used to make biofuel—sugarcane, maize, oil palm, and soy—are usually grown in monoculture plantations whose ecological impacts are well documented, and recent evidence continues to solidify what is known about the impacts of biofuel crop expansion on water (Dominguez-Faus, Powers, Burken, & Alvarez, 2009; Larsen et al., 2014) and biodiversity (Fargione, Plevin, & Hill, 2010).

Growing crops to produce energy also poses a threat to sustainable food systems. It intensifies competition for arable land, has an impact on livelihoods including subsistence farming, and creates price interactions that affect both farmers and urban consumers. Especially where farmers lack clear land titles, biofuel projects that do not take steps to address power imbalances have failed to reduce rural poverty (Clancy, 2013). Land acquisitions carried out in the name of biofuels have in some places blocked access to subsistence farmland, communal lands, and shared forests (Cotula, 2013; Schoneveld, German, & Nutakor, 2011). Where there are local benefits from biofuel projects, they tend to be unequally distributed and can worsen existing inequalities (Creutzig, Corbera, Bolwig, & Hunsberger, 2013).

The idea that expanded biofuel production affects ecologies and livelihoods is not new, but what has changed noticeably in recent years is the governance landscape surrounding biofuels. One trend is that biofuel policies have come to include a wider range of issues. By 2010

at least 24 countries had established fuel blending requirements for ethanol or biodiesel (IPCC, 2011). These targets focused on quantity and were designed primarily to stimulate biofuel markets. But several governments have since modified their initial policies by introducing additional criteria to specify how the targets should be met. For example, fuel quality measures such as the U.S. Renewable Fuel Standard require that biofuels release fewer greenhouse gas emissions than fossil fuels; and, as of 2012, the E.U. Fuel Quality Directive includes land use change in this calculation. Brazil's biodiesel policy placed more emphasis on promoting social inclusion than the country's earlier ethanol policy (Hall, Matos, Severino, & Beltrao, 2009; Stattman & Mol, 2014). The 2009 E.U. Renewable Energy Directive includes sustainability criteria that address social issues related to land rights and labour as well as some environmental considerations beyond climate, such as biodiversity (E.U., 2009). These examples show that the scope of biofuel policies has broadened in two ways: themes of social and environmental protection have been added to an initial focus on climate change mitigation and economic growth; and qualitative efforts to define what production practices are acceptable have been added to quantitative targets defining how much biofuel to produce or use.

A second change in biofuel governance is that a wider range of actors has become involved. Private certification schemes have proliferated, ranging from “multi-stakeholder roundtables” that claim to be driven by a broad and inclusive group of partners on relatively equal footing, to less participatory, more top-down schemes that follow a business-oriented approach (Ponte, 2014). In the European Union, these initiatives form part of a “hybrid” governance strategy—in which governments set the rules and private certification provides a means by which producers are expected to prove their compliance with those rules. Mutual dependence between public and private institutions is a defining feature of such “hybrid” arrangements (Ponte & Daugbjerg, 2014).

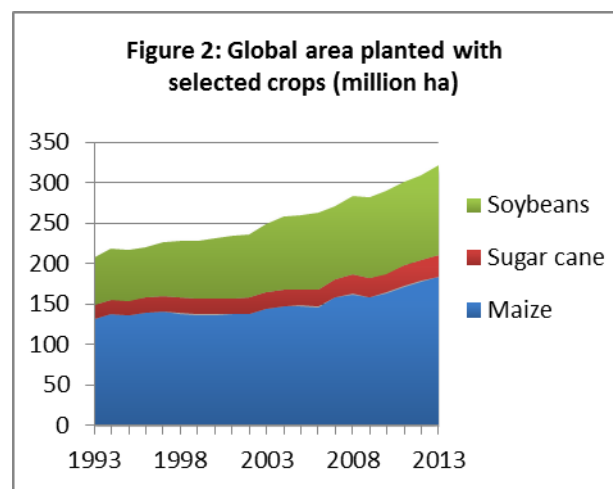
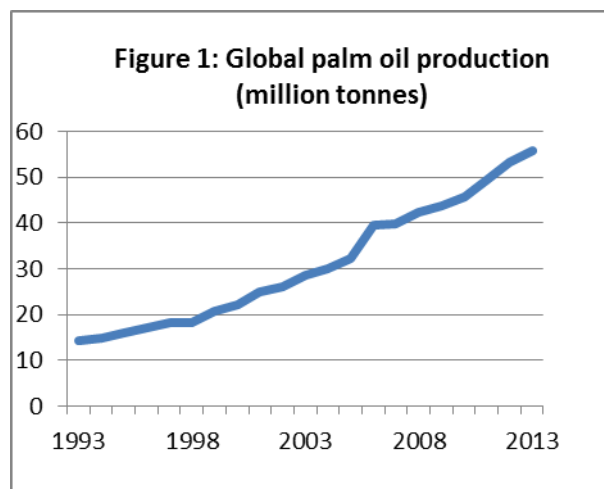
Despite these new rules, new themes, and new actors, not much has changed on the ground. In many places, biofuel production or use targets are still at the top of the policy hierarchy, leaving the question of not whether, but how they should be met. The expansion of biofuel production has not stopped, and as explained below, the uptake of sustainability certification has been patchy at best. The broadening of biofuel regulations and the players involved do not seem to have influenced environmental or social practices in many places where biofuel crops are grown.

Taking a critical look at governance initiatives that are meant to improve the “sustainability” of biofuels can reveal useful insights for food scholars, activists, and policymakers. The following sections explore three specific problems with the governance of biofuels in order to think strategically about how to engage with them.

Problem 1: Biofuel crops are “slippery”

Most of the current main sources of biofuel are “flex crops” that can be used to make several different end products, such as food, livestock feed, commercial, or industrial products (Borras et al., 2014). Crops like sugarcane, oil palm, and soy seem to offer investors a tempting freedom to decide what to sell based on price signals. While the nature and extent of this flexible decision-making is not yet fully understood, flex crops have indeed gone through a staggering period of expansion. Over the 20 years from 1993 to 2013, the area planted with soybeans worldwide nearly doubled, while the production of palm oil nearly quadrupled (Figures 1 and 2). It is difficult to trace what portion of these crop harvests are used for biofuels, but it is clear that rising demand for biofuels has contributed to the overall expansion of these crops.

Strategies that aim to regulate biofuel production often apply to only one use of these flexible crops while others remain exempt. For example, the EU Renewable Energy Directive of 2009 requires that biofuels be produced according to their sustainability criteria if they are to count toward renewable energy targets and qualify for financial incentives, but there are no parallel regulations on how the same crops should be produced if they are used for other purposes. Soya oil imported to make fuel would thus have to meet the RED sustainability criteria, while soya oil imported to make food products—perhaps as a substitute for rapeseed oil now being turned into biodiesel—would not. By exploiting this flexibility, soy producers could sidestep biofuel regulations.



Data source: (FAOSTAT, 2014)

Certification schemes that apply to crops, rather than their products, do exist—for example, the Roundtable for Sustainable Palm Oil (RSPO), the Roundtable for Responsible Soy (RTRS), and Bonsucro for sugar—but only a small minority of producers has taken up these initiatives. In 2012, certified soybeans represented only two percent of global production and sugar three percent, with palm oil faring slightly better at 15 percent (Oosterveer, Adjei, Vellema, &

Slingerland, 2014). Even though the RSPO faces little competition from similar schemes, the amount of RSPO-certified palm oil remains small because importers like India, China, and Pakistan continue to buy uncertified products (Ponte, 2014). Meanwhile, certification can have unintended effects: for example, measures that discourage crops from being planted on newly deforested land may unwittingly encourage their expansion on cropland formerly used to produce food (Oosterveer et al., 2014).

In short, trying to govern the production of flexible crops based on only one of their end uses (biofuel) has left gaps, while certification systems that cover flexible crops as a whole remain unpopular.

Problem 2: Policymakers fear trade disputes

The 2009 European sustainability criteria for biofuels include several binding measures for environmental protection, for example, excluding biofuels that are produced on recently deforested, high-carbon, or high-biodiversity land. In contrast, the same policy requires that social goals on land rights and labour standards merely be reported on rather than met (E.U., 2009). Many argue that European policymakers backed off from setting mandatory social requirements because they worried that doing so might trigger disputes through the World Trade Organization (WTO) (Daugbjerg & Swinbank, 2014; Lydgate, 2012). The issue is that regulations based on differences in the production process—such as labour practices that do not change the nature of the product—could be considered discrimination against “like” products. While the same situation can apply to environmental criteria—for example, there is no physical difference between biodiesel produced on newly deforested versus non-deforested land—GATT article XX includes a provision for maintaining environmental protection measures, while there is no analogous provision for social measures, meaning that at least on paper, environmental policies are “less vulnerable to legal challenge” than social ones (Ponte & Daugbjerg, 2014, p. 12).

How likely is it that binding social standards for biofuel production could trigger a WTO trade dispute? Ponte and Daugbjerg (2014) conclude that the risk is low for two reasons: comparable trade restrictions in the U.S. and E.U. have not yet faced WTO challenges; and developing countries seeking to export biofuels would face reputational damage if they took a vocal stance against labour standards. It is thus worth asking to what extent the regulatory “chill” attributed to the WTO might actually be a form of self-discipline on the part of biofuel policymakers.

Problem 3: Sustainability measures are poorly implemented

Relying on private certification to change how biofuels are produced has so far been ineffective for several reasons. These include: (1) producers who pursue certification tend to choose the least demanding schemes; (2) many producers cannot or choose not to seek certification; and (3) international mechanisms have failed to overcome obstacles that impede national laws on the same issues.

Certification systems vary greatly in the scope and strictness of their requirements. Several studies have shown that more robust, comprehensive and transparent biofuel certification schemes are less likely to be implemented than those that impose less rigorous demands or offer producers the opportunity to pick and choose from a list of criteria (German & Schoneveld, 2012; Hunsberger, Bolwig, Corbera, & Creutzig, 2014; Ponte, 2014). For example, within the European market for certified biofuels, the more thorough and consultative Roundtable on Sustainable Biomaterials (formerly the Roundtable on Sustainable Biofuels) has been unable to compete with the more “industry friendly” ISCC (Ponte, 2014). Having a range of approved schemes seems to allow a “race to the bottom” in which the least exacting requirements prove to be most popular.

To qualify for certification, a biofuel producer needs to devote significant resources and capacity to making practical changes in the production process, monitoring results, and keeping careful records. For this reason certification schemes generally favour larger producers and those based in the North over smaller producers and those in the global South (Lee et al., 2011; Ponte, 2014). Some schemes require the involvement of NGOs or farmer organizations, excluding smaller producers who lack these connections (Oosterveer et al., 2014). Even well-resourced producers only have an incentive to meet (often onerous) sustainability criteria if they plan to export to a market that demands them. So far several major importers of palm oil and soy have shown little interest in certified products, a trend that is reflected in the low uptake of certification for these crops overall (Oosterveer et al., 2014; Ponte, 2014).

The recent proliferation of certification schemes can be seen as part of a broad shift in global land governance, from a focus on “territorial” rules to one on “flow-centred” arrangements designed for particular goods or resources (Sikor et al., 2013). Setting production criteria for internationally traded goods, as the E.U. has done, represents an attempt to influence agricultural practices in other countries without engaging with their national laws. Schut, Leeuwis, and van Paassen (2013) argue that if national laws (based on territory) are well designed, they are better placed to influence production practices than international standards that certify production for trade to specific markets (based on flows). In many places, “sustainability” certification could be achieved just by complying with national laws on environmental and social protection that are already in place—yet enforcing these laws remains a persistent challenge (Schut et al., 2013). So far, new international biofuel standards and criteria do not seem to have done much to compel compliance with existing laws (Larsen et al., 2014; Newberry, 2014).

Conclusions

Although biofuel governance has shifted and taken new forms, it has largely failed to reduce the problems it claims to address. Even the most progressive biofuel policies share a common weakness: by treating complex problems as though they were separate, these policies apply pressure on narrowly defined situations in a way that does nothing to prevent problems from simply moving. Regulating biofuels as an energy source that happens to come from agricultural land—in isolation from broader issues of land rights, food, rural livelihoods, and ecologies—has not worked.

Has resistance to biofuels followed a similar pattern? One of the strongest critiques of biofuels has focused on the threat they pose to food security. While this strategy has effectively brought competition with food into public awareness as well as the biofuel policy discourse, one can contemplate the risks of falling into an opposite trap—of treating biofuels as a food and agriculture problem without engaging with deeply entrenched energy issues. If critics fight biofuels on the grounds that they threaten a just food system, how much will that help to close off space for some of the energy sector’s ugly alternatives: fracking, oil sands, and Arctic drilling?

This is not to suggest that food activists should be responsible for yet another issue just because food and energy systems are intertwined. Perhaps it does make sense to resist these problematic energy strategies separately and on different terms. But for the sake of responding to the challenge of making complex connections coherent, it is worth asking whether there is something to rally around that pushes against the most pressing injustices of food and energy systems at the same time.

One strategy to improve the governance of biofuels would be to focus on underlying issues rather than the “symptoms” of particular projects (Hunsberger et al., 2014). Measures aimed at broad goals, such as the FAO Tenure Guidelines, may provide better criteria for assessing the impacts of biofuels than narrow rules focused on reducing greenhouse gases. Moving in this direction could also help to address the problem of “slippery” flex crops sidestepping rules that are specific to biofuels, which is linked to treating biofuel production as a stand-alone sector rather than an activity inextricably enmeshed with agriculture and food systems.

How might such a broadening of focus look when including key food issues? The right to land has been described as a gateway to other rights such as food and health (Claeys, this issue). In a potential parallel, Boyd (2012) demonstrates that the right to—or the rights of—a healthy environment has been leveraged to enact stronger environmental laws, promote environmental justice, and increase public involvement in decision-making in countries that have adopted such a constitutional right. Approaching biofuels production and regulation from a broader perspective points to some questions for future research: Is it worth seeking strategic common ground in the push for food and energy justice? If so, could the right to (or the rights of) a

healthy environment make a useful contribution to articulating these interconnected struggles? And how might this standpoint support, complement, extend, or wrestle with other justice meta-narratives such as anti-capitalism?

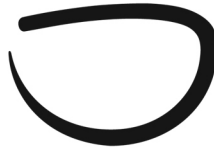
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Section IX

Sustainable food systems and global environmental change

*Special Issue: Mapping the Global Food Landscape***Peasant agriculture, seeds, and biodiversity**

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Seeds hold a special place in the struggle for food sovereignty. These small grains are the basis for the future. They shape, at each life cycle, the type of food people eat, how it is grown, and who grows it. Seeds are also a vessel that carries the past, the accumulated vision, and knowledge and practices of peasant and farming communities worldwide.

—La Via Campesina, *Our Seeds, Our Future* (2013)

Farmers and food providers have created and maintained the knowledge and biodiversity that is the basis for the planet's food supply for thousands of years. Yet seeds and biodiversity have been at the margins of the mainstream discourses on food security. New thinking and global events are rapidly changing as seeds, biodiversity, and peasant agriculture are now front and centre in the discourses promoting food sovereignty, food system resilience, and sustainability.¹ This paper argues for a central place for this discourse, examines the state of peasant agriculture, and outlines the policies and measures needed to support it.

These new dynamics are fed by both crisis and opportunity. The current crisis is related to post-2008 questions of how to feed a billion hungry people on a planet seriously endangered by climate change, and in the context of market volatility, unrestrained speculation and investment in land and food commodities. The opportunity, on the other hand, stems from heightened awareness and action on food justice, seeds, and biodiversity at all levels: states,

¹ These reflections are based on the work of USC Canada (Unitarian Service Committee) with social movements, farmers' organizations, and networks working on seeds and biodiverse agriculture over the past decade.

institutions, civil society, and the general public. The push for change is being led by food sovereignty movements, farmers and food providers, students, environmental activists, food enthusiasts, gardeners, and health-conscious parents, nutrition professionals, and others. And at the public level, the demand for heirloom crop varieties, seed exchanges, organically produced foods, and connecting with those who produce our food, all indicate a tremendous rising interest in food and seeds.

These shifts also coincide with renewed interest in the potential of small-scale food producers at the level of global food governance in Rome. Reforms of the Committee on World Food Security (CFS) have given diverse networks of peasant farmers, fishers, pastoralists, indigenous peoples, landless, agricultural workers, young farmers, and social movements a seat at the table in Rome, and the opportunity to influence this agenda. Consequently, the recent FAO conference on agroecology heeded the call by farmers' movements and civil society to make agroecology and biodiverse agriculture an essential model to realize the human right to food (as has been articulated earlier in several reports by Olivier de Schutter, former UN Special Rapporteur on the Right to Food) (de Schutter, 2010).

These trends have all led to the same resounding conclusion: the current dominant food systems are not serving us, and need a major rethink. Debates on agriculture are vibrant but many still contain numerous reality gaps, particularly those related to the starting point of agriculture, and the first link in the food chain: seeds.

The state of peasant agriculture, seeds and biodiversity

What do we need to know about peasant agriculture and food systems? "Peasant agriculture" is used by La Via Campesina and other food sovereignty networks to reclaim the space for and respect the roles of the smallholder farmers and food producers who are at the heart of food systems. ETC Group sees peasant agriculture as a "food web," in contrast to the industrial "food chain," and portrays it as a complex and interconnected web of relationships between people, communities, and ecosystems. Contrasting the two food systems reveals a great imbalance in the contribution of each one to food security, and the resources that each takes (ETC Group, 2013; Mooney and ETC Group, this issue). Peasant agriculture plays a significant role in feeding the world, with some arguing that it produces up to 80 percent of the food consumed in the non-industrialized countries (de Schutter, 2010). Using less than a quarter of the world's farmland, peasant agriculture grows about 7,000 different crops. In contrast, the industrial food chain produces about 150 crops, using 70 percent of the world's agricultural resources (ETC Group, 2013).²

² The Peasant Food Chain, according to ETC Group (2010, p. 3), provides 30 percent of all food consumed (crops, fish, etc.) but uses about 70 to 80 percent of world's arable land to grow 30 to 40 percent of crop-derived food, while accounting for 70 percent of water used in agriculture (ETC Group, 2010, p. 3).

Seed saving and plant breeding are essential starting points in the practice of agriculture. Peasant agriculture begins with farmer-saved seeds and the knowledge of how to breed them in a particular agro-ecosystem. As plant breeders, farmers are most interested in *intra-specific* diversity—diversity within a particular plant species—because the loss of intra-specific diversity weakens resilience to pests, diseases, and climate change. In breeding seeds and cultivating them sustainably, peasant farmers retain an ongoing library of information and knowledge about how seeds perform under different conditions, what traits express themselves when, and which are hidden. Peasant farmers also recognize and seek to cultivate the benefits of numerous varieties measured by criteria that include, among others: yield, nutrition, market value, hardiness, storability, disease tolerance, adaptability to changes in climate patterns, growing season, desirability, taste and colour, cultural value, etc. Meanwhile, industrial agriculture breeds for very few traits and conditions—relating mostly to yield and herbicide tolerance.

Peasant farmers depend on *in situ* or on-farm conservation of seed varieties as opposed to *ex situ* conservation, away from the fields. Seeds saved in farming communities constitute living seed banks, and these can enable the community to retain full access and control over their genetic resources for breeding, but also for use as food and for income if they wish. *Ex situ* conservation is a necessary backup in case of catastrophic crop failure.

Peasant agriculture through dynamic selection of plant varieties, development, and exchange of seeds, is actually *growing* biodiversity within species. For example, small-scale farmers (who for all intents and purposes should be called “farmer scientists”) working in the hillside regions of Honduras as part of USC Canada’s Seeds of Survival program bred 145 varieties of beans over the past decade (USC Canada, 2013). Peasant food systems work with a spectrum of agro-ecosystem variables, and make optimal use of soil, water, and seeds. Natural resources are constantly improved, through experimentation, innovation, and value creation. Unlike industrial agricultural thinking, there are no “externalities” in these systems; the various elements all work to enhance the whole. Peasant food systems aim to minimize losses, but when there are losses, they are due less to misuse or overuse of resources and technologies; instead, they are related to climate change or normally occurring weather patterns, or problems related to weak infrastructure (storage, transport, etc.) (van der Ploeg, 2013).

Finally, there is the question of productivity. The role of smaller, integrated farms in enhancing productivity, partly through resilience and diversity, is well documented.³ GRAIN calls this the “productivity paradox,” referring to an inverse relationship between farm size and productivity. For example, in Central America small farmers have 17 percent of the agricultural land, yet they account for 50 percent of all agricultural production. In Kenya, with just 37 percent of the land, small farms produced 73 percent of agricultural output in 2004 (GRAIN, 2014).

³ For example, see the work of Altieri et al. (2012), Koohafkan et al. (2011), McIntyre et al. (2009).

Policies that support peasant agriculture and biodiversity

In its landmark report, the International Assessment of Agricultural Science, Technology and Knowledge for Development (IAASTD; see McIntyre et al. 2009) spoke of the “multifunctionality of agriculture.” Today, food system analysis often uses the approach of food system resilience. Both take a broad systemic approach that considers the environmental, social, economic, and political dimensions. How can this broader framing help lead to transformation? How do we fit this “whole” systemic approach to food and farming into the fragmented world of decision-making policy? What policies could support a transition to a biodiverse, resilient, peasant food web? Some of the following connected and mutually reinforcing policy measures might work towards this goal.

1. Tackle the systemic barriers and drivers of biodiversity loss

Stronger policy and regulatory measures at the international and national levels are required to tackle the drivers of biodiversity loss that have led to a 75 percent loss in crop diversity in the last 100 years, and that have eroded the foundation of our food and agricultural systems. Trade and investment policies, speculation, and the financialization of food and agriculture, land, and commodities are significant drivers of this phenomenon. Also key is to address corporate concentration in the food and seed industry, to eliminate perverse incentives (such as subsidies to agrofuels), and re-assess the effectiveness of market-led solutions such as the UN Environment Programme’s initiatives under Reducing Emissions from Deforestation and Forest Degradation (REDD) and schemes involving biodiversity offsets.⁴

2. Enable seed policies

Around the world, there is surging interest in agroecological farming with diverse crop varieties, especially local varieties. Yet for those who want to practice low-input farming with biodiverse varieties, there is a significant shortage in the supply of high-quality, organic, locally adapted, diverse varieties of seeds that can be legally owned, saved, and replanted. This is a major shortcoming. However, policies can support the initiatives to produce more organic, diverse seeds, and facilitate (rather than prohibit) farmer-to-farmer seed exchange, creating a “protected commons” for farmers and seed breeders using open-source methodologies.

Seed legislation and regulatory frameworks often favour corporate breeders over small farmers’ rights and practices of breeding their own plant varieties, saving, exchanging, and replanting their seeds. National level legislation derived from UPOV 91 is having this impact in many countries (including Canada, where recently tabled legislation based on UPOV 91 would revoke the privileges and exceptions given to farmers under UPOV 78) (National Farmers

⁴ For an explanation of biodiversity offsets and other financing mechanisms for ecosystems, see EcoNexus, *Business and Biodiversity: A Licence to Operate* (December 2012), <http://www.econexus.info/publication/business-and-biodiversity-licence-operate>

Union, 2013). In many countries, including Canada, state funded *public* plant breeding programs, which had been key features of national level crop research, must be re-instated.

Externally developed seed technologies such as genetic engineering and synthetic biology require strong, transparent, and inclusive technology assessment mechanisms and the application of the precautionary principle, since they marginalize peasants and their knowledge systems, extend corporate control, and undermine food sovereignty.

3. Support biodiverse peasant agriculture

Specific policies, programs, and funding are needed to support small-scale food producers in agriculturally biodiverse systems, and give priority to genetic resource conservation on-farm, through community seed banks, participatory plant breeding and seed sharing initiatives. Supporting farmers' access to land and to organic, local seeds, particularly for young farmers, is also key. Such policies and programs should go beyond farmers, taking into account the rights and knowledge systems of women, livestock keepers, forest communities, artisanal fishers, indigenous peoples, and local communities.

4. Make research on peasant agriculture and agroecology a priority

Huge imbalances exist between corporate research and breeding programs and research on peasant agriculture by small-scale farmers and civil society. Research priorities must be re-oriented, with priority placed on farmer-led research that is centred on the knowledge systems of peasant food producers, and which promotes knowledge exchange at the farmer and community level. An obvious area of study here is agroecology and its far-reaching social and economic benefits. Much of this can be accomplished through revitalized public research, and state-supported plant breeding programs that were instrumental in biodiversity research in the past, but which have disappeared in many countries as privately bred and patented seeds take over the market.

5. More inclusive and localized governance of food and seeds

As the Committee on World Food Security High Level Panel of Experts (CFS, 2013) points out, governance in agriculture and rural development needs to be (re)designed to support the multifunctional nature of smallholder farming. Today we have examples of visionary national, provincial, and municipal food policies put forward through inclusive deliberation processes, including some that are led by civil society (such as Food Secure Canada's *Peoples Food Policy*, 2011). Looking at food across its many aspects, the People's Food Policy suggests localizing food production and consumption, supporting a widespread shift to ecological food production, and addressing food insecurity through poverty, health, and child nutrition programs. When it comes to seeds and agricultural diversity, municipalities could capitalize on this new public interest and incorporate biodiversity into successful, integrated food policies and practices, creating dynamic local foodsheds and institutional support for connecting producers, eaters, and decision-makers through food. What might this look like? Some examples are seed diversity

gardens in cities, school nutrition programs with a biodiversity curriculum, and food procurement programs that source heritage crops.

6. Strengthen the voices of peasants and food producers

The reformed Committee on World Food Security represents a model of inclusive, representative governance that put farmers, fishers, pastoralists, and food providers at the policy table. We need to spread the CFS model of governance to other multilateral bodies governing climate change, trade and human rights—which have a direct impact on food security—and replicate the inclusive decision-making structures at the national, provincial, and municipal levels at which policies are implemented. At the same time, there is no more effective way of amplifying farmers’ voices than to strengthen farmers’ organizations themselves and support their efforts to build alliances with other organizations.

Areas of research

More research is needed in the area of biodiversity-based peasant agriculture for uptake by a wider range of policy makers and practitioners. This research should consolidate the existing national and subnational evidence on positive impacts of peasant agriculture while also examining the factors that are impeding the wider adoption of these approaches.

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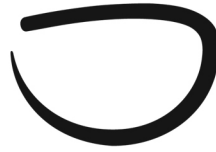
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Section IX

Sustainable food systems and global environmental change

*Special Issue: Mapping the Global Food Landscape***Sustainable food systems and global environmental change—Synthesis paper**

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This article responds to the debates surrounding how best to merge sustainable food systems and sustainability goals in the context of biofuel production, industrial livestock operations, and peasant agriculture. Various new initiatives meant to improve the “sustainability” of agricultural production in the aforementioned areas stem from multiple crises facing the global food system. A critical look at some measures, however, reveals consequences that are unhelpful and/or problematic, particularly in addressing issues of equity and justice. This contribution examines arguments made in the three articles addressing the key topic of sustainable food systems in the face of global environmental change. First, a “doubling narrative” that justifies the continuing meatification of diets is confronted. Second, broadening agrofuel regulations and the implementation gaps they create are addressed. Third, I examine some creative alternatives that hold potential to create resilient food systems. Lastly, this contribution explores strategies that coherently make complex connections, which may help stimulate stronger and more effective policy reforms.

Weis’s paper fully engages in the debate about whether or not increased food production is needed by analyzing the “doubling narrative” in industrial livestock production. The four prominent drivers used to entrench this narrative are persistent hunger and malnourishment, further population growth, projection of expanding biofuels, and expected dietary changes. Though persuasive in its claims about efficiency and innovation, the doubling narrative contains troubling assumptions that obscure many deep-rooted problems (Weis, this issue). It concurrently hypothesizes pro-poor and pro-growth solutions, and embraces continuing global

market integration and deepening corporate-control over productive resources, all of which in effect exacerbate world hunger and food insecurity.

In the area of biofuels, an increasing number of initiatives aim to improve the “sustainability” of biofuel production due to concerns arising from the intensified competition for arable land, and numerous negative effects on poor people’s livelihoods—all created by biofuels (Hunsberger, this issue). Biofuel governance has expanded its scope to include themes of social and environmental protection. Implementation measures, however, still tend to treat biofuels as a stand-alone sector rather than one activity intertwined in broader agriculture and food systems. This means that biofuel crops are regulated based only on their end use (e.g., for ethanol or biodiesel), which inevitably allows producers to exploit their flexibility in use, and to sidestep regulations. In addition, a proliferation of private certification schemes has enabled producers to choose the least demanding options. These patchy governance initiatives for biofuels are problematic because the social and ecological harms they create at best remain unaddressed and at worst deepen insecurity and inequality.

Questions of how to feed the world in a manner that is environmentally and socially sustainable coincides with renewed interest in peasant agriculture that previously existed on the margins of mainstream discourse (Wise, this issue). In particular, food sovereignty movements have amplified positive qualities of peasant agriculture, which increasingly are influencing reform agendas in some arenas. The Committee on World Food Security (CFS) now includes a diverse network of stakeholders who have helped push to make agroecology and biodiverse agriculture a key component in realizing the human right to food (Ahmed, this issue). Inspired by peasant agriculture, civil society groups such as Food Secure Canada have also adopted inclusive and deliberative processes to arrive at visionary food policies (Food Secure Canada, 2011). While insights from peasant agriculture and new sustainability measures may hold potential to bring about more equitable and/or resilient food systems, existing fragmented food governance policies hinder transformation in this area (Wise, this issue).

All three papers highlight the need to tackle governance policies—such as unfair trade rules and perverse subsidies used to support the increased production of agro-fuels—that accentuate the global food and agriculture crisis. Equally important is the need for systemic shift towards policy priorities that embody the “multi-functionality of agriculture” (McIntyre et al., 2009) in order to build more sustainable food systems that are capable of actually improving global food and nutrition security. However, systemic policy change is perhaps the biggest challenge to reforming and/or transforming mainstream platforms. Thus far, there has been little to no political will from governments and powerful institutions such as the World Trade Organization (WTO) to regulate current unsustainable agricultural practices, or give much policy space for alternatives. Influential organizations like the World Bank, the WTO, and the G8/G20 tend to be unsupportive of and even distance themselves from scientific research such as the IAASTD (Clapp, 2009) that presents the case for alternative agricultural methods, and those advocating for food sovereignty.

Despite a difficult policy environment for food system transformation, strategies that coherently make complex connections might be drawn upon, which may help stimulate stronger and more effective policy reforms over time. A key question is how new approaches to education and coalition building can (re)articulate struggles for food and energy systems that are more just. Weis asks how civic action can help make problems in the food system resonate with the public much more broadly and deeply than they do now (and in both an intellectual and emotive sense).

Weis offers a few paths that might be constructive to confront the meatification of diets. One strategy is to leverage growing health concerns (i.e., obesity and non-communicable diseases) linked to high levels of consumption of animal products and thus stimulate policy reform action. As Weis explains, governments can enforce legislation that would apply excise taxes on animal products to de-incentivize industrial livestock production, and/or to re-orient subsidies towards more ecologically efficient plant-based foods. Hunsberger challenges us to rethink whether weak agrofuel governance infers that biofuels must be contested or done away with altogether on the grounds that they threaten a just food system. And if a decline in biofuels were to actually occur, could it unintentionally stimulate more environmentally harmful energy extraction methods like fracking, further tar sands development, and Arctic drilling? She argues that biofuels should and could be more effectively governed. One way to do so might be to incorporate broader goals, such as those outlined in the FAO Land Tenure Guidelines,¹ rather than narrow criteria focused only on climate change mitigation and economic growth.

Ahmed sheds light on peasant agriculture's capacity to add value and enhance agricultural systems. Empirically grounded analysis show that in cyclone-prone areas of Central America, farmers who practice biodiverse agroecological practices tended to suffer less crop damage than their conventional neighbours (Ahmed, this issue; Altieri, 2009). Therefore, an effective campaign to support alternatives such as agroecology would include evoking its potential ability to assist in easing the impacts of climate change. Perhaps agroecology's more strategic contribution, which might resonate with a wider audience, is its role in helping to build new relationships, alternative values, and priorities between humans as well as nature (Snipstal, this issue).

Another strategy involves invoking the human rights framework to demand policy incentives that promote a clean and healthy environment. This is because there is already wide recognition that many human rights are dependent on our relationship with a clean, healthy, and sustainable planet. Moreover, some regional charters do in fact recognize a clean and healthy environment as a basic human right (e.g., the African Charter on Human and People's Rights² and the American Convention on Human Rights³).

¹ The full agreement is: "The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security." For more information, see:

<http://www.fao.org/nr/tenure/voluntary-guidelines/en/>

² The African Charter on Human and People's Right was adopted by the African Union in 1981. For more information, visit: http://www.achpr.org/files/instruments/achpr/banjul_charter.pdf

³ For more information on the American Convention on Human Rights, see: http://www.oas.org/dil/treaties_B-32_American_Convention_on_Human_Rights.pdf

There are concerns, however, about invoking the human rights framework. Human rights, after all, are inherently embedded in the anthropocentric and liberal paradigm. It is very much about the rights that we as one species are entitled to as opposed to being part of the wider biosphere. This is problematic considering that many global environmental disasters, including climate change, are attributed to anthropogenic activities (IPCC, 2009) and world leaders have repeatedly failed to reach agreements on human-induced climate change. The 2009 UN Climate Change Conference in Copenhagen is indicative of this inability, as are some of the world's largest polluters like the United States and Canada pulling out of the Kyoto Protocol.⁴ However, there have been some responses to legally (re)define the human-centric relationship with the biosphere (see also Friedmann, this issue). For example, less than two years after the failed climate talks in Copenhagen, some 35,000 people gathered for the World People's Conference on Climate Change and the Rights of Mother Earth in Cochabamba, Bolivia. A key outcome of that meeting was the Universal Declaration of the Rights of Mother Earth—emphasizing not only strategic tools towards more ecological agriculture but also an alternative worldview and mode of being.

The Declaration recognizes Mother Earth as a living being, with which humans (and other species) have an interdependent and interrelated relationship (Cullinan, 2011). What exactly would nature's rights entail? Salon and Cullinan (2010) explain that if the rights of nature were incorporated in the laws of countries, courts and tribunals would have to deal with maintaining vital ecological balances between human needs and the Earth, rather than being bogged down in technical details of permitted pollutants and emissions, such as carbon sequestration and the Clean Development Mechanism (CDM) (ibid). Essentially, instead of focusing on humans' rights to nature, the emphasis would be on the rights of nature—where nature is figured as the rights holder. For example, Bolivia has passed its Mother Earth Law, which grants nature equal rights to humans.

The global food system is at a crossroads. Socio-ecological crises arising from dominant agricultural land-use patterns and consumption are proving difficult to contain, despite various sustainability efforts to do so. Left unaddressed, these problems may fuel the potential for instability and violence—as urban food riots have already shown—as well as for greater global environmental change and the subsequent negative effects of climate change. The current food system therefore needs major rethinking to create transformative solutions that would bring about a more equitable and resilient global food system. We need to rethink the current global food system to create transformative solutions that would effectively bring about more equitable food systems that better respond to people's needs and desires while also respecting local ecosystems.

⁴ The Kyoto Protocol is the world's first legally binding agreement to limit emissions of greenhouse gases.

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*Special Issue: Mapping the Global Food Landscape***Section X****Global food governance in an era of crisis**Jennifer Clapp¹, Annette Aurélie Desmarais², and Matias E. Margulis³

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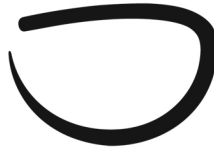
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There have been multiple and significant changes in the global food landscape when it comes to governance. The 2008 Global Food Crisis heightened attention to and action for food security; this is reflected in the expanding food security agenda across the United Nations system, the World Bank and the Group of Eight (G8) and Group of Twenty (G20) clubs of states. Similarly, there has been expansion of new modes of governing the global food system, ranging from transnational certification schemes for agrofuels and food commodities to voluntary guidelines on land tenure. The two articles in this section provide timely analysis of the United Nations Committee on World Food Security (CFS), which is a global forum that has taken on greater centrality in the global governance of food and that features a diverse set of state and non-state actors involved in the agenda-setting, policy-making, and decision-making process.

Nora McKeon, who as an insider has participated in and observed the evolution of the CFS, offers a critical stocktaking. She observes that the CFS has performed extremely well in terms of including the voices of those most affected by food insecurity, namely small farmers and peasants from the global South, and demonstrated receptivity to multiple forms of knowledge and lived experience. This clearly distinguishes the CFS from other forums where knowledge is exclusively based on the knowledge and analyses of scientific “experts.” However, McKeon questions whether the current model of consensus-based approach to multistakeholder decision-making, which provides private actors and organizations such as the World Bank a voice equal to the food insecure in policy deliberations, leads to insufficient ambition for

meaningful social change. Jessica Duncan explores the extent to which the CFS offers an instructive model for what is known as “reflexive governance” and the extent to which the linkage between food security and environmental sustainability can be deepened at the CFS. Duncan notes that although the CFS ranks high on most indicators of reflexive governance, however, environmental sustainability is not a driver of the committee’s work. This suggests that transforming the CFS to fully integrate an ecological dimension at the core of its agenda will require further opening up of the institution to a wider constellation of actors and forms of knowledge.

Michelle Metzger’s synthesis paper of the workshop discussion identifies a number of trends in global food governance. The existence of the CFS points towards an opening of global spaces for food governance. This opening up is occurring at the political level in terms of the participation of new actors that is based on lived experiences and forms of knowledge that have not been traditionally included in global governance. As a result, the CFS is fostering new governance practices that are not commonly found elsewhere in multilateral organizations. Metzger observes that there are important lessons to draw from the CFS, not only in terms of identifying ways to improve its performance, but also for exporting the innovative, inclusive, and participatory governance model to other global governance spaces.



Section X

Global food governance in an era of crisis

*Special Issue: Mapping the Global Food Landscape***Global food governance in an era of crisis: Lessons from the United Nations Committee on World Food Security¹**

Nora McKeon

Roma Tre University

The increasingly destructive impacts that today's global food system visits upon local food provision, biodiversity, and the environment have been highlighted by a number of contributors in this special issue. Viewed through a global governance lens, public responsibility has been progressively sold out to markets and corporations while the front-line actors of food provision—families, communities, and small-scale producers—have been disempowered. Decisions that affect food security are most often taken at tables located behind closed doors, from which the vulnerable are excluded. The global food system is largely orchestrated by powerful corporate, financial, and political actors to serve their own interests.

Now is the time to build better food governance, not only because we are getting very close to the absolute ecological, socio-economic, and political limits of today's dominant system, but also because alternatives do exist. As articles in Section 5 of this issue have illustrated, a diversified and articulated network of different ways of thinking and going about food provision has sprung up, rooted in territories and cultures throughout the world. These solutions are practiced and advocated by increasingly authoritative organizations of peasant farmers, artisanal fisherfolk, pastoralists, indigenous peoples, urban poor, and other constituencies, many of whom recognize themselves in the food sovereignty movement. They are mobilizing around their common experiences at all levels including the global, where they have been instrumental in establishing a unique governance site.

¹ Issues raised in this article are addressed in detail in McKeon (2015).

The Committee on World Food Security

The reform of the existing, but ineffectual, Committee on World Food Security (CFS) in 2009, in response to the 2007–08 food price crisis, was a precedent-setting exercise in opening up intergovernmental process to participation by other actors, with particular attention to those most affected by food insecurity and most active in developing solutions (see McKeon, 2015). Two decades of networking and capacity building aimed at conquering policy space for rural social movements had put them in a position to exploit the political opportunity that the crisis offered and to have effective input within the reform process (Colombo & Onorati, 2013; McKeon, 2009). The outcome was a forum designed for inclusively debated, paradigm-changing, normative guidance in which these constituencies are full participants, where the right to food is the mission, and where expertise is recognized to reside in producers and practitioners as well as researchers and academics.

When the “new” CFS was heralded with a standing ovation by the participants at the final meeting of the multi-actor assembly in which the reform had been negotiated, there might have been a momentary temptation to think that the global food governance problem had been “solved.” Of course it had not, but it was an important step in the right direction. Now, five years later, the experience of the CFS becomes a vantage point from which to revisit the explicit and implicit assumptions that informed its design and to survey what else is needed. This article considers some key lessons learned from a civil society perspective.

Lessons

One lesson is that global governance can only be effective and equitable if it is built from the bottom up and incorporates the democratization of food provision at all levels; multiple examples of this around the world have demonstrated that it can happen and is happening. Indigenous peoples are an inexhaustible source of knowledge about different ways of governing food, but there are others. Extended family farms in West Africa, for example, have introduced family assemblies as spaces in which patriarchy can be challenged pacifically and women and young people can pursue their objectives. Even in the global North, where the corporate food system is most strongly entrenched, community-supported agriculture schemes and municipal food councils are spreading (Snipstal, this issue). They constitute decentralized laboratories in governance that liberate the energy of people, on whom the dominant corporate system had previously had a soporific effect.

Under pressure from citizens, sub-national governance is daring to challenge national jurisdiction and global rules on issues like genetically modified organism (GMO) labelling and public procurement. Regional economic bodies such as the Latin American Mercosur and the Economic Community of West African States (ECOWAS) are governance sites to which social

movements can have more immediate and continuous access than at the global level. People-powered linkages—not only vertical but also horizontal—are one aspect of what has to happen to build better food governance globally. The CFS has a mandate to make connections with regional and national food policy spaces, however not enough has been done thus far by either the official or the civil society actors of the committee. A more legitimate group of people may be in the room at Food and Agriculture Organization (FAO) headquarters where the CFS meets, but ownership of the political work they are doing there is insufficiently broad and deep, nor is it adequately linked to the reality of people’s lives and struggles.

A related lesson is that the prospect of instituting a single global organ that could dictate binding rules on all aspects of food provision is unlikely, and probably not even desirable.² What civil society actors prefer, it seems increasingly clear, is a governance system that can produce and enforce authoritative guidance and promote policy coherence globally, but at the same time reinforce public policy space and accountability at levels where inclusion of the vulnerable is most feasible and where diversity can flourish (see Narula, this issue). This means turning the dominant top-down direction of the transnational governance approach of the past couple of neoliberal decades on its head. Interestingly enough, the best-armed enforcer of global regulations—the World Trade Organization (WTO)—is suffering breaches of its authority on the terrain of food security (see Murphy, this issue). For example, the global food crisis has prompted some countries to directly outsource food provision via land grabbing, thus contravening the goal of WTO trade rules (McMichael, 2013). And in August 2014, during the final round of the negotiations on principles for responsible agricultural investment (RAI), the government of India took a timid step to bring its claims for the right to defend its national food security strategy—which had been repulsed just days earlier in the WTO Council of Ministers—into the CFS (see Kripke, this issue). India’s stance was a contribution towards imagining a world in which the right to food can trump trade, rather than the contrary, and towards combatting forms of regime complexity that privilege the powerful and well resourced over the vulnerable (Margulis, 2013).

Many more such steps are needed. Better linkages between the CFS and other global forums like the UN Human Rights Council are also needed. The UN Human Rights Council has succeeded in getting processes underway to defend peasants’ right and regulate transnational corporations (Claeys, 2014; Monsalve Suárez, 2013). Outreach to less congenial forums is equally important. The CFS was built on an implicit assumption that a global governance system can be based on articulation and coherence seeking, rather than on hierarchical domination, and on normative rather than sanction-based enforcement. Instead, experience demonstrates that defenders of the dominant global corporate-led food system are propagating fragmentation as a means of weakening the CFS’ mandate as the foremost food security forum. The Second

² Some pro-food sovereignty authors tend to support this direction by, for example, recommending a pro-poor redistributive global institution (Akram-Lodhi, 2013), while others draw attention to the implication that “transferring too many regulatory powers to the international level would undoubtedly entail trade-offs for people’s self-determination” (Monsalve Suárez & Aubry, 2014, p. 24).

International Conference on Nutrition, the post-2015 agenda, and the post Rio+20 market-driven work on the green economy are strategic discussions, which ought to—but do not—benefit from CFS guidance regarding implications for food security and the right to food.³ On the contrary, the inviolability of fortresses where the neoliberal cohorts are strong—like the WTO—is brandished as a doubtfully valid argument for refusing to let the CFS “tread on their territory” from a right-to-food perspective.

Another candidate for further reflection concerns the appropriate political decision-making practices for global food governance. The CFS reform was the response to the food price crisis advocated by social movements and Group of 77 (G77) countries in 2009 because it privileged inclusive political decision making over technical-managerial fixes (as in the UN High Level Task Force on the Global Food Security Crisis) or Group of Eight (G8) smoke-screening (as in the Global Partnership on Agriculture, Food Security and Nutrition). This preference is not being questioned today, but the tendency for negotiated consensus to sink towards an only marginally useful lowest common denominator is painfully evident. The higher the political stakes, the lower the negotiated level of consensus seems likely to be. Consensus is not necessarily conducive to social and political change. Might it be preferable—in situations where interests are so diverse and power imbalances so extreme—to return to the time-honoured practice of voting? The outcome might not be significantly different on key issues, but accountability could be heightened. In the run-up to final decision making, as well, it is useful to highlight differences and subject them to debate. Statements of dissent in reports of the CFS’ High Level Panel of Experts (HLPE) that provide background for CFS sessions can be instructive for policy makers and can oblige them to assume their decisional role. A deeper and more nuanced discussion can help them to better understand the stakes of what they are negotiating. How can the right balance between discursive deliberation and political decision-making be achieved?

One area of CFS progress is precisely that of significantly shifting the terms of the debate. In five short years, the CFS has come to officially acknowledge that small-scale producers are the main investors in agriculture and produce some 70 percent of the food consumed in the world. This contradicts the normalizing discourse that large-scale industrial agriculture is the only hope for feeding the world’s growing population (Akram Lodhi, this issue). Crucially, the CFS has deconstructed “the market,” recognizing that all markets are not the same and that not all are beneficial for small-scale producers and local economies. High-quality HLPE reports contribute to this paradigm shift, as does direct engagement by people’s organizations whose reality checks cannot be ignored.

This broadening of horizons does not necessarily translate directly into the terms of negotiated normative guidance. The outcome of the RAI negotiations is weaker than those of

³ Nonetheless, promising efforts are now underway to broker a long overdue marriage between nutrition and agriculture in the context of the CFS. (See *Right to Food and Nutrition Watch 2015*.) On the other hand, there is growing interest in taking the CFS/CSM as a model for governance of the post-2015 agenda, with the danger of abstracting it from the process of social movement mobilization that constitutes a basis of its legitimacy.

earlier policy discussions on related topics (McMichael, this issue). Along similar lines, a key piece of the CFS reform was the hard-won agreement to develop a Global Strategic Framework (GSF) for attaining food and nutrition security and the right to food. The GSF was conceived by civil society advocates as a way of progressively assembling CFS deliberations to shift the paradigm from liberalization towards the right to food, and as a tool to promote accountability. It has not yet fulfilled these aspirations. The monitoring function of the CFS is proving to be one of the most difficult to put into practice because of a governmental allergy to accountability. Yet it remains an essential piece of what would be necessary to build better global food governance. How to carry it forward constitutes another fruitful terrain for reflection.

What is actually done with normative guidance once it has been promulgated is a related issue, and another for reflection. If CFS outcomes cannot be appropriated by the base, they will remain ethereal abstractions and social movement engagement will wither. The limitations of “voluntary” guidelines have been denounced. Now, however, it is suggested in some quarters that it is not so much an issue of hard- versus soft-law per se, but rather of the overall dynamics of power and law in developing effective ways to control the powerful (Monsalve Suárez & Aubry, 2014). Non-binding, voluntary codes are not all the same. Instruments like the CFS tenure guidelines are potentially suited to being transformed into strong, enforceable, national regulation since they result from inclusive decentralized consultation and negotiation, which has incorporated many of the concerns of those most affected. The imperative of bringing CFS norms to bear on national realities takes us back to the initial acknowledgement in this article that better global food governance is wedded to bottom-up democratization of decision-making. It also shines a spotlight on the paradoxical situation of states—currently among the worst offenders in promoting short-sighted and self-seeking objectives, and yet a basic building block for accountability and defense of citizens’ collective rights (Narula and Claeys, this issue).

Finally, who ought to be in the global governance room, and with what roles? A largely unquestioned string of illogical thinking starts off with the truism that the corporate private sector has enormous influence on food security and hence has to be taken into account in seeking solutions to hunger and malnutrition. That may be the case, but how should it be taken into account? Should the corporate private sector be “in the room” on the same footing as civil society, as in the CFS, helping to define standards that are expected to defend the right to food of the world’s population and the ecological and climatic health of the planet? The in-the-room champions argue that if corporations do not participate in framing normative guidance they are not likely to respect it, but experience with corporate social responsibility points in a different direction (Clapp & Thistlethwaite, 2012). As West African peasant leader Mamadou Cissokho has put it, “We don’t want ‘responsible investors’. We want a legislative framework that protects us effectively and investors who are obliged to respect the law” (personal communication, 2012). Unregulated public-private partnerships are no substitute for public policies.

Conclusion

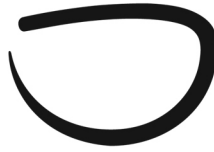
Eight years after the 2007–08 global food price crisis, we are in an interesting place as far as prospects for global food governance are concerned. On the one hand, the food sovereignty movement is progressively building up its potential to help fragment the global hegemony of the corporate food system and reconstitute a territorially rooted and governed approach to food provision (see Desmarais and Wittman, this issue). On the other hand, the advent of the CFS has created the prospect of a global forum that might actually support, rather than squash, initiatives from the grassroots. The fact that the CFS is under attack today from those who have nothing to gain from better food governance is an indicator of its success. It is an incitement to us to defend it, including by critiquing its weaknesses and addressing its limitations.

This article has identified some of the areas in which further research would be welcome. There is an impelling need for serious, documented assessments of “multi-stakeholderism” as an approach to governance that includes actors other than states alone, at all levels. What requirements have to be respected in order to recognize the separate identities and responsibilities of different actors, maintain governmental accountability, empower the vulnerable, and address power imbalances and corporate conflicts of interest? Achieving a more sensitive understanding of the dynamics of multiscale governance is another important research objective related to the vision of a world organized around regionally based, ecologically resilient agrifood systems. Verifying the conditions under which global discursive victories and norms adoption can support people’s local struggles to defend their rights is essential to judge the pertinence of social movement engagement in international arenas, as is strategic reflection on how best to address forum fragmentation from a human rights perspective. Going beyond the “what” to the “how,” the challenge—in the spirit of the reformed CFS and building on experience in areas like the fight against land grabbing—is to devise methodologies of inquiry that allow the different forms of knowledge and experience of academics, practitioners, and social movements to enter into dialogue and enrich one another.

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Section X

Global food governance in an era of crisis

*Special Issue: Mapping the Global Food Landscape***“Greening” global food governance**

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It has been argued that there are two broad criteria to judge humanity's success in feeding itself: “(i) the proportion of people whose access to basic nutritional requirements is secure; and (ii) the extent to which global food production is sustainable” (Daily et al., 1998, p. 1291). According to these criteria, we have failed. First, 870 million people worldwide were estimated to be chronically undernourished in the period from 2010 to 2012 (FAO, 2012a). Second, the industrial model of global food production and distribution is not environmentally sustainable. Approximately 19 to 29 percent of global greenhouse gas emissions are directly attributed to agriculture. Agriculture is also the leading driver of deforestation and forest degradation globally, a process that accounts for an additional 17 percent of global carbon emissions (Vermeulen, Campbell, & Ingram, 2012).

Food security and environmental sustainability are understood to be fundamental policy goals requiring local, national, and global coordination. They are also multi-dimensional and dynamic concepts characterized differently by diverse epistemic communities. These concepts are further marked by uncertainties and represent policy problems for which there is no neutral diagnosis. Correspondingly, there is increasing recognition of the need to address them by way of reflexive governance arrangements (Hendriks & Grin, 2007; Voss & Kemp, 2005, 2006; Wolff, 2006). Reflexive governance arrangements acknowledge multiple perspectives, expectations, power dynamics, and strategies. They reject quests for a single framing of the problem, a single prognosis of consequences, and a single way forward (Voss & Bornemann, 2011).

The UN Committee on World Food Security (CFS) is a global governance organization that has implemented key strategies of reflexive governance. This article considers how reflexive

governance strategies support the “greening” of global food security policies, taking the CFS as a case study. A guiding assumption is that environmental sustainability must be prioritized in global food governance in order to successfully eradicate hunger and realize the human right to food.

Greening global food security policy

Efforts to “green” food security policy have been fragmented and limited to date. This is despite almost unanimous agreement amongst states and global publics on the need to address environmental challenges across the food system, and increasing calls to move away from “business as usual” in global food security policies (IAASTD, 2009; UNCTAD, 2013; UNEP, 2012; Friedmann, this issue). Consider that existing global food security policy frameworks continue to be marked by the promotion of commodity-oriented modes of agricultural production that emphasize reducing yield gaps, producing “more with less” and improving the productivity of labour, technology, and chemical inputs (Duncan, 2015). Yet there is a growing body of research that illustrates conventional agriculture technologies are “associated with greenhouse gas emissions, pesticide residues, reduced biodiversity, soil erosion, declining fertility and salt build-ups” (Bennett & Franzel, 2013, p. 193–4; see also Flora, 2010; Lichtfouse, Navarrete, Debaeke, Véronique, & Alberola, 2009; Röling, 2010) and that export market-oriented strategies have had negative impacts on food security and the environment in some cases (De Schutter, 2013; FAO, 2012b; Tyler & Dixie, 2012; UNEP, 2011).

The relationships between food security and the environment are complex and multi-directional (Poppy et al., 2014, p. 2). Given that the global food system is not only dependent on the environment, but is also one of the greatest drivers of environmental change (UNEP, 2011), there is a clear need to develop and implement food policies that are respectful of the diversity of existing ecosystems. The goal here is thus to identify governance arrangements that support the greening of food security as a policy domain at the crossroads of food, agriculture, culture, development, environment, economy, trade, investment, and equity.

The term “greening” has been critiqued for being applied to processes that fail to address the structural processes and paradigms that produce a need for explicit inclusion of environmental considerations (Crane, 2000). The term is often used to denote a negative process of “greenwashing” (Delmas & Burbano, 2011; Walker & Wan, 2012) or “green grabbing” (Fairhead, Leach, & Scoones, 2012; Green & Adams, 2014). While admittedly not without problems, I use the concept here to describe “the introduction or reformulation of policies, practices, products and/or processes in order to address key environmental issues” (Crane, 2000, p. 674).

Food security is a similarly contentious, contested, and politically loaded term whose usefulness as a policy approach has been called into question. Yet, for better or worse, food security, “when all people, at all times, have physical, social and economic access to sufficient,

safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (CFS, 2009), remains the primary frame through which hunger and nutrition policies are addressed in international policymaking.

Reflexive governance for green food security policy?

“Food security” and “environmental sustainability” are dynamic concepts that are built on the basis of uncertain knowledge and socio-cultural evolution (Voss & Kemp, 2006, p. 15). They represent so-called “wicked problems”: problems of extreme consequence to humanity (and the earth) that are difficult or impossible to solve (Conklin, 2006; Rittel & Webber, 1974). These problems transgress traditional policy boundaries and require governance arrangements that reflect, orient and supervise “diverse specialized problem-solving processes” (Voss & Kemp, 2006, p. 7). Such reflexive governance arrangements are characterized by the building up of capacities for social learning and iterative participatory goal formulation (Voss & Kemp, 2006). They are further predicated on ongoing diagnoses (Rip, 2006) and thus are capable of reacting to contingencies and change by way of flexible strategies and monitoring (Wolff, 2006). Reflexive governance arrangements also recognize that governing activities are connected to wider societal feedback loops and partly shaped by their own governing dynamics (Voss & Kemp, 2005).

Various scholars have examined reflexive governance arrangements for sustainability at the national and local levels (Hendriks & Grin, 2007; Rip, 2006; Voss & Bornemann, 2011; Voss & Kemp, 2006; Wolff, 2006), however, there has been less research at the global level. In order to apply reflexive governance for greening food security at the global level, and assess the potential for the CFS towards this end, I make use of the five strategies that promote sustainability governance identified by Voss and Kemp (2006):

- integrated (transdisciplinary) knowledge production
- adaptivity of strategies and institutions
- anticipation of the long-term systematic effects of action strategies
- iterative participatory goal formulation
- interactive strategy development

As illustrated below, the CFS incorporates elements of each of these strategies into its practices and is thus a site of investigation that can further understanding of the capacity of reflexive governance arrangements to green global food security policies.

The inclusion of integrated knowledge production. Greening food security requires integrated knowledge production that seeks to address not only the challenge of governing heterogeneous and cross-scale elements, but also the involvement of diverse epistemic communities therein. The CFS undertakes integrated knowledge production through the work and output of the High Level Panel of Experts (HLPE) and the inclusion of multiple types of

actors (e.g., states, international organizations, civil society, private sector, and academic) active in the everyday work and decision-making (McKeon, this issue).

Adaptable strategies and institutions. Food security and environmental sustainability are in constant transition and as such, solutions cannot be defined *ex ante*, that is, forecasted in advance (Voss & Kemp, 2006). The reformed CFS has proven to be open to experimentation and adaptation. The reform process itself was experimental and adaptable insofar as it sought to prioritize the voices of those most affected by food insecurity, and in turn support the self-organized participation of civil society actors across the work of the CFS. Furthermore, many within the CFS speak about “learning while doing,” reflecting an informal understanding of the need to remain institutionally adaptable (Duncan, 2015). The institutional and policy outputs of the CFS are themselves adaptable. For example, the Global Strategic Framework for Food Security and Nutrition (GSF) is referred to as a “living” document, “designed to be a dynamic document to be updated by the CFS Plenary on the basis of regular CFS processes and policy debates” (CFS, 2014). As another example of adaptivity, the Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT) recognize the need for local interpretation and were thus designed to be adaptable to multiple contexts.

Reflexive governance for green food security policies also requires systematic and interactive *anticipation of longer-term effects* and potential indirect effects. The CFS has started to address this by tasking the HLPE to develop a report on Critical and Emerging Issues in the area of food security and nutrition (HLPE, 2014).

Iterative participatory goal formulation. The goal of greening food security policy cannot be qualified objectively once and for all as environmental sustainability is a moving target (Voss & Kemp, 2006). Therefore, green food security policymaking requires a trade-off of values. While not seamless, there have been concerted attempts by the CFS to identify goals through iterative and participatory processes (Duncan & Barling, 2012; Duncan, 2015). Examples of this can be seen in the inclusion of civil society actors as full participants in the CFS reform process and later on the Advisory Group to the CFS executive. The influence of participants on agenda formation and negotiated outputs has been marked by positive contributions and an increased perception of legitimacy (Brem-Wilson, 2014; De Schutter, 2014; Duncan, 2015; McKeon, 2009; Seufert, 2013).

Finally, *interactive strategy development* in reflexive governance arrangements relates to the capacity of a governing institution to influence the process of transformation. The argument here is that to shape a transition towards green food security policy, diverse actions need to be aligned in a collective strategy that are developed with relevant stakeholders so as to integrate knowledge and assure support for implementation (Voss & Kemp, 2006). This is reflected in how the role of a reformed CFS was envisaged, which was defined as follows:

the CFS’ vision and role to focus on the key challenges of
eradicating hunger; expanding participation in CFS to *ensure that*

voices of all relevant stakeholders are heard in the policy debate on food and agriculture; adapt its rules and procedures with the aim to become the *central United Nations political platform* dealing with food security and nutrition... (CFS 2009, para. 2, emphasis added)

This quote illustrates that the CFS was envisaged to function in a manner that features many of the key strategies of reflexive governance described above. However, while the CFS has arguably achieved its goal of becoming the central political platform for food security in the UN system, it has yet to secure centrality outside of the UN system.

The above review illustrates that the CFS is an example of a global food security governance organization that has incorporated reflexive strategies into its procedures. While theory suggests that these strategies are important for sustainability governance, in and of themselves, they do not provide insight into whether the CFS is actually “greening” food security. A review of recent CFS decisions and outputs does suggest that environmental concerns are starting to be acknowledged and incorporated into food security policies (e.g., agroecology, sustainable fisheries, climate change, biofuels), but that integration remains weak and fragmented, and uptake even more so. This could change given that the HLPE has argued that an overarching challenge is how to ensure food security and nutrition for an “increasing world population, now and in the future, from limited and diversely available resources, given social and economic imbalances, unequal access to resources and distribution of potential for economic growth income, and purchasing power” (High Level Panel of Experts, 2014, p. 2).

Conclusions and future research

The need to green food security is not a new idea (Berry et al., 2015; Daily et al., 1998; Richardson, 2010), and while the necessity of greening food security policy has been widely acknowledged, few efforts have been made to integrate environmental sustainability objectives into food security policies. Building on theories of reflexive governance for sustainability transition, I have shown how the CFS represents a governance arrangement with the potential to meaningfully green food security policy, however caution is also needed. Transitioning to greener food security policies by way of reflexive governance arrangements requires not only adaptive and iterative forms of participation and decision making, but also acknowledgement of the complex political landscapes and distribution of power (Hendriks & Grin, 2007).

While efforts to advance the integration of environmental sustainability and food security have been limited to date (Barling & Duncan, 2015), there are hints that global governance organizations are beginning to take it seriously. In September 2014, the FAO hosted a two-day International Symposium on Agroecology for Food Security and Nutrition, culminating in a high-level round table with agriculture ministers from several countries sharing experiences and experiments. Moreover, Goal 2 of the Sustainable Development Goals aims to end hunger,

achieve food security and improved nutrition and promote sustainable agriculture. This suggests that there is increasing traction around greening global food security policy. However, as argued above, for this traction to lead to transition, it is important that governance organizations take up reflexive strategies. In addition, organizations with reflexive governance capacity, like the CFS, must be given the resources and support needed to fulfil their role. Without this, the CFS cannot achieve its mandate of being the foremost international intergovernmental and multi-stakeholder platform for food security and nutrition, working “for a world free from hunger where countries implement the voluntary guidelines for the progressive realization of the right to adequate food in the context of national food security” in an environmentally sustainable manner (CFS, 2009, para. 4).

Given the issues raised above, future research should consider the following questions:

- What constellation of actors can best support the greening of food security policy at the CFS and beyond?
- What are the relationships (formal and informal, existing and potential) between private governance, public governance, and public-private governance, and how do they influence green global food security governance?
- What other existing governance practices can further support transition towards green food security governance?
- What are the pathways between green food security policy and green food security practices? How can these links be strengthened?

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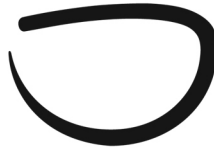
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Section X

Global food governance in an era of crisis

*Special Issue: Mapping the Global Food Landscape***Thinking forward in global food governance—Synthesis
paper**

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Global food governance is ever evolving as political leaders become increasingly aware of the complexity and dynamic nature of managing the global food system in a sustainable manner. Calls for reform of the Food and Agriculture Organization of the United Nations (FAO) in the early 2000s (McKeon, 2009) were reinforced by the severity of the 2007–08 global food crisis, which prompted the reform to the Committee for World Food Security (CFS) in 2009. A related (and novel) development was the establishment of the High Level Panel of Experts on Food Security and Nutrition (HLPE) at the CFS to provide policymakers with interdisciplinary academic knowledge (Duncan, 2015). These developments mark an important step towards more inclusive and evidence-based global food governance. Now is an excellent time to critically assess the progress made at the CFS in the first five years and evaluate the role that these institutions may come to play in the coming years.

Below I reflect on the preceding articles by McKeon and Duncan and a presentation made by Maryam Rahmanian, Vice-Chairperson of the HLPE Steering Committee, at the workshop in Waterloo. Discussions at the workshop on the CFS and HLPE were very animated, in particular because the CFS, with its unique decision-making process that incorporates civil society organizations alongside states, offers a model of what more participatory forms of global governance can look like. Furthermore, the HLPE represents a unique interface that mobilizes knowledge to inform global food security policymaking; this is of particular interest to academics as it provides a new mechanism for bridging scholarly research and global food policymaking.

Opening up global food governance

A common theme in the articles by McKeon and Duncan is the innovative and transformative qualities of the CFS and HLPE. In particular, the CFS has opened up global policy spaces that increase accessibility to global food policy debates and decision-making for a variety of historically unrepresented groups. This opening up of global policy spaces has occurred on both a political and epistemological level. On a political level, the structure of the CFS allows a variety of civil society and social movement actors—most notably the transnational peasant network, La Via Campesina—to be active participants in the CFS. As McKeon observes, the inclusion of voices linked to grassroots organizations is a significant and positive step for democratizing food governance. By institutionalizing a decision-making structure that actively seeks to consider the voices of those most vulnerable to food insecurity, there is hope that the CFS will serve as a forum that fosters innovative and progressive food policy.

On an epistemological level, the HLPE has increased partnerships and knowledge exchanges with academics in order to provide evidence-based policy. As such, the HLPE (and by extension the CFS) does not rely exclusively on in-house experts from the FAO or other international organizations such as the World Bank, which is the norm at the global level. In addition, the HLPE seeks to gain diverse and multiple forms of knowledge. It draws on expertise from natural and social scientists, including knowledge produced by interdisciplinary teams, in an effort to overcome the fragmented nature of discipline-specific expertise to support better food policymaking. As in the CFS, civil society representatives participate in the selection of research topics at the HLPE. Given that the politicization of knowledge is particularly acute in global forums, participation of civil society in the knowledge production process (i.e., reviewing and commenting on reports before they are officially published) ensures that states are not the sole and final arbiters of “truth”. In practice, this has resulted in the HLPE bringing a greater emphasis on social welfare, human rights, and sustainability to its research activities.

The HLPE, Rahmanian’s presentation showed, has not only opened up a space for governance, but also created conditions where states and global civil society actors are learning and experimenting in multiple ways of producing knowledge. This process of experimentalism and learning (i.e., listening to and valuing different types of knowledge such as traditional or experiential knowledge in addition to academic/scientific knowledge) not only parallels the opening of political space but, at a deeper level, has produced an epistemological shift in policy debates.

Reflecting on initial experiences

Another key theme that emerged from the discussion during the workshop was the importance of reflection. McKeon and Duncan, as well as Rahmanian, offer a critical analysis of the progress of the reformed CFS and HLPE, specifically regarding the first years of experience as a learning

opportunity that can shape more innovative and effective governance in the future. The core strength of the CFS, which prompted a lot of discussion among the authors and workshop participants, is its inclusive and participatory structure. According to Duncan, the CFS is a more stable and adaptive institution because of its interactive and participatory approach to knowledge production and goal setting. These attributes enable the CFS to respond effectively to an increasingly dynamic social, political, and environmental context. Not only are the voices of diverse stakeholder groups heard, but also their involvement is codified and institutionalized. In the case of the HLPE, it is specifically mandated to report on controversy allowing for difficult (political) discussions to be reinforced and carried through.

On the other hand, the CFS does have major shortcomings, largely surrounding the problem of legitimacy and the capacity of the institution to achieve its desired impact. According to McKeon, the effectiveness of the CFS' normative governance is questionable. The key problem identified is that the CFS lacks delegated authority to enforce its decisions; this may prevent it from realizing its expansive mandate and lofty objectives. This is not to say that as a committee of the UN the CFS lacks legitimacy (see Koç, this issue), however, as argued by Duncan, the question remains as to how to translate legitimacy into power and impact. The other workshop participants echoed this concern. Furthermore, McKeon raises the problem of achieving the CFS' desired impact through consensus-based decision making, and Duncan notes the challenge of maintaining momentum and interest in the CFS into the future (see McMichael, this issue, on the pushback against the CFS by northern states and the World Bank). In this respect, the CFS' greatest strength is also a major challenge, as including a diverse set of voices and daring to engage in controversial aspects of the global food system do require significant commitments of both time and resources; in some cases, the CFS and HLPE have found it difficult to achieve compromise among strong competing interests. This raises concerns about institutional gridlock over time. Further critiques of the CFS included an observable disconnect between the awareness among CFS participants of critical issues but failure of these participants to advance concrete actions to address them. For example, Duncan notes that an increased awareness of the need to address sustainability in global food governance has not resulted in much action or increased work on sustainable food systems. Similarly, McKeon raises the question of whether the innovative character of the CFS is actually "changing the tune of global governance" from its foundation in neoliberal ideology to one rooted in the right to food (see Narula and Claeys, this issue). In answer, McKeon argues that we are not there, at least not yet.

Where do we go from here?

A major focus of the discussion at the workshop was to conceptualize how the CFS and HLPE fit into the bigger picture of global governance. The consensus was that the challenges of building sustainable food systems are integrated, dynamic, and complex, and the innovative and inclusive nature of the CFS is a compelling model to begin addressing these issues in a more holistic

manner. However, it is evident that many fields and policy issues crucial to sustainable food systems are not governed by the CFS (trade, for example, remains exclusively under the World Trade Organization [WTO]; see Kripke, Murphy & Margulis, this issue). Because of this situation of fragmented governance, one participant noted that the power to prioritize sustainability often lies outside the sphere of public governance that includes private actors and civil society (see Ahmed, Clapp, Hunsberger, & Mooney and ETC Group, this issue). Whereas Duncan in her article argues that the CFS could be made more “green” to lead on sustainability issues, the challenge of establishing integrated and effective food security governance is and will remain the defining challenge of global food governance in the coming years (Friedmann, this issue). In response, several workshop participants questioned which other institutions and stakeholders ought to be invited to the global food governance table or what mechanisms might better mediate interactions between them?

Workshop participants pointed out that there are lessons to be learned from how policy discussions initiated at the CFS are being extended into other international forums. For example, issues originally raised at the CFS were incorporated into discussions at the 2014 meeting of the Comprehensive Africa Agriculture Development Programme (CAADP). One participant observed the importance of better understanding the CFS’ role as an incubator for ideas and the mechanisms through which ideas were transferred into other forums. Research on this issue would allow for drawing conclusions on how research and advocacy could be more effective.

There was further debate among participants on the issue of whether the participatory structure of the CFS itself could be used as a model in other international fora. One perspective was that the CFS is unique because it is a result of a long-term struggle of civil society and a specific set of factors (i.e., global food crisis, increased political importance of food security, etc.) This makes the CFS’ unique role as a coordinating space not easily replicable in other political spheres. Moreover, Rhamanian pointed out that one cannot effectively replicate the political aspect of the CFS, for example, without the accompanying knowledge-production dimension of the HLPE, because the success of the CFS relies heavily on the integrated structure between decision-making and knowledge mobilization. McKeon observes that the CFS stands as an example of collective, creative thinking and alternative modes of governance, but this is an ongoing process that must continue if the body is to achieve its ultimate goals. In other words, while the particular structure of the CFS may not be a perfect model for effective global food governance, the process of inclusive and participatory decision-making is an important example for other global institutions to follow when reflecting on their own governance frameworks.

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