22 Actualizing Sustainable Food Systems

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Learning Objectives

Through this chapter, you can

1. Explore theories behind strategies to develop a sustainable food system
2. Examine how actors navigate within and around the food system that they are trying to change
3. Consider the implications of alternative food strategies that grow in scale
4. Understand how discourse that supports the industrial food system impacts perceptions of possibilities for food system change

Introduction

Food systems conversations in the twenty-first century are becoming increasingly complex, as producers, consumers, rural and urban communities, academics, and policy makers embrace the potential of food to address a set of interconnected issues—from nutrition and health to livelihoods and regional development (Blouin, Lemay, Ashraf, and Imai 2009). Since regional food systems are built both as alternative to and yet also within existing policy, regulatory, and legislative structures, these conversations and possibilities are framed by a global industrial food system built on liberalization of trade (Clapp 2009), corporate concentration of ownership (Rosset 2008), neo-liberal discourse (Holt-Giménez and Altieri 2013) and resource depletion (Weis 2010). These structures—and the discourse that supports them—play an important role in guiding how we think about food systems change (Marsden 2013). While the potential benefits of ecologically regenerative, socially just, community-based food systems are well rehearsed in the literature, an equally compelling body of research has identified theoretical and practical barriers, minefields that stand in the way of that potential. The pervasive reach of food systems—that makes food such a powerful vehicle for enacting strategies for sustainability—also makes these strategies susceptible to the influence of interdependent systems operating at scales from local to global, including ecological, climatic, financial, regulatory, trade, and **governance** systems (Bernstein 2014). This chapter explores significant theories behind strategies to develop sustainable food systems by examining how food system actors navigate within and around the food system that they are trying to change; the targets, priorities, and practices that they employ; and how these strategies account for the implications of scale.

Theorizing Food Systems Change

Precisely which strategies can best develop a sustainable food system has been the source of much debate in the food systems literature, and food scholars have applied a number of frameworks for understanding strategies used to create systemic change (e.g. Hinrichs 2014; Holt-Giménez and Shattuck 2011). In this chapter, these strategies are organized on a spectrum from minor adjustments to amend the current food system, to gradual shifts that facilitate transition, to fundamental changes that transform, or to a hybrid that will demonstrate alternative values—through successes at the community level—and the possibilities for fundamental change to the broader food system (see table 22.1). This section outlines the theories behind these four strategies, and identifies the ways in which each strategy supports working within or in opposition to the current food system.

Strategy 1—Amend: The Sustainable Intensification Debate

Proponents of "amend" strategies seek small changes to the current food system that could have large impacts by producing more food—and improving food security—while reducing negative environmental consequences. Working within existing food system structures, "amend" strategies are largely focused on technological innovations and transferring productionist

Table 22.1	Strategies for Food Systems Change			
	Amend (Within)	**Transition (Around)**	**Transform (In opposition)**	**Demonstrate (Within the cracks)**
Priorities	Producing more food with lower environmental and social impact	Creating, replicating, and networking of alternative structures	Dismantling of corporate monopolies and enhancement of food sovereignty	Nurturing the values necessary for sustainable systems
Possibilities	Small modifications; a "greening" of the industrial food system and more food in areas where hunger is prevalent; very little (if any) structural change is possible	Slow transition toward a better food system through provision of alternatives	Radical and fundamental transformation of the economic, political, and food systems; structural change at all levels (community to international)	Demonstration of feasibility of alternatives through community-based action that changes values and governance
Focus	Technology: Green and efficient production methods	People: Locally adapted production methods; reconnection of producers and consumers	Regulations, power, and control (resource distribution [land, water, seed], equitable food distribution, community autonomy)	Shared social understanding of what is possible and viable, and what should be valued
Means	Technology improvements (higher yield, greener) and transfer to regions with low yields; strategies for implementing technology into sustainable food production systems	Providing alternatives to the conventional food system; producer and consumer awareness of alternative options; scaling out existing alternatives	Demands for political changes to national and international regulatory structures (e.g. trade, labour, patents, land access)	Community-based action that changes values: takes advantage of devolution, regionally uneven development

technologies to low-producing regions. Scholars who advocate **sustainable intensification** as a means to improve the food system largely fall into this camp of strategies (Garnett et al. 2013). The spread of Green Revolution technologies—including high-yielding seed varieties, machinery, synthetic pesticides, and fertilizers—has increased global food production, but the technologies have not reached all regions, and have also caused a number of environmental impacts (see Weis, chapter 9 in this volume; Pretty 2008). Scholars in this camp are concerned with reducing such impacts while meeting the needs of the rising global population, which is expected to reach 9 billion by 2050 and is increasingly consuming high-calorie and resource-intensive foods—e.g. processed foods, meat, and dairy foods—while a larger number of people are going hungry around the globe. Primary food system concerns include the need to reduce world hunger, meet rising food demand, and do so under increasing environmental stress due to climate change and declining land, water, and energy resources (Godfray et al. 2010).

Suggesting that global food production will need to rise by 70 per cent, scholars who advocate sustainable intensification emphasize technological innovations that must be implemented in highly productive regions and transferred to under-producing regions (Godfray et al. 2010). Given increasing competition for land and other resources and the ecological costs of clearing new land for food production, emphasis is placed on intensifying production on existing farmland while making better use of resources, inputs, and technologies (Garnett et al. 2013).

Some are careful to acknowledge that technological enhancement only leads to sustainable intensification when it reduces or eliminates ecological harm, and must be implemented in concert with enhanced use of ecological goods and services, collective action and human capital (Pretty 2008). However, for others the push to increase production takes priority over the means by which this is accomplished. Some have suggested that production could be raised by as much as 58 per cent by closing **yield gaps**—the difference between actual and potential yield in a particular location, given existing agricultural technology and practice (Foley et al. 2011). Yield gaps of over 50 per cent currently exist in much of Africa, Latin America, and Eastern Europe, and closing yield gaps could improve food security without cultivating additional land (Foley et al. 2011). Important innovations here include yield-enhancing technology combined with agricultural practices and technologies that reduce the environmental impacts of conventional food production. Technological strategies for developing a sustainable food system are commonly supported in international policy circles including the World Bank and the Food and Agriculture Organization of the United Nations (Holt-Giménez and Shattuck 2011).

But is there a need to raise global food production? Currently over 2,800 dietary calories per person per day are produced (FAO 2013), which is more than 600 calories above average caloric requirement. Yet almost 1.5 billion adults are overweight or obese (Popkin, Adair, and Ng 2012) while over 800 million people are undernourished (FAO 2013). In light of this inequity, increasing food production may not be sufficient to reduce hunger (Misselhorn et al. 2012). Critics of sustainable intensification argue that it focuses too closely on technological fixes that did not work during the Green Revolution and do not address the structural barriers created by trade liberalization, corporate concentration, and inequitable distribution of resources, thereby doing little to support a sustainable food system (Holt-Giménez 2013). Strategies that emphasize technological solutions have been criticized for ignoring inequitable distribution and the power relations involved in social systems (Lawhon and Murphy 2011). For instance, who owns the proposed technological innovations, and who will benefit by their implementation?

These criticisms indicate practical barriers to implementing sustainable intensification; strategies that do not directly engage those most affected by their implementation may not

effectively address the needs of those that the strategies seek to support. As a result, proponents of "transition," "transform," and "demonstrate" strategies reject the focus on technology and argue that people-centred strategies are more likely to help those most affected by crises in the food system—and create sustainable food systems (Holt-Giménez 2014).

Strategy 2—Transition: Providing Alternatives to the Industrial Food System

"Transition" strategies, also termed "alternative" (Allen, FitzSimmons, Goodman, and Warner 2003) or "progressive" (Holt-Giménez and Shattuck 2011), emphasize solutions that are profoundly different from the industrial food system without directly challenging that system. Working around the industrial food system, rather than explicitly opposing it, "transition" strategies are primarily implemented at the community level. The means for implementing "transition" strategies include practical or "on-the-ground" initiatives that target local priorities by allowing individuals to opt out of the industrial food system without directly challenging that system. "Transition" strategies occur primarily through initiatives to shorten supply chains and reconnect producers and consumers.

"Transition" strategies are guided by the assumptions that creating alternative food markets and relationships, and eating differently, can change the food system (Goodman, DuPuis, and Goodman 2014). Watts, Ilbery, and Maye (2005) differentiate weak alternative market-based initiatives, which are based on product characteristics (e.g. organic) and may be susceptible to corporate co-optation and thus do little to transform the food system (see Knezevic, chapter 16 in this volume), and strong alternatives, which are based on networks (e.g. farmers' markets; consumer-farmer relations) and may be important in creating a sustainable food system (Watts et al. 2005). Similarly, Fridell (2009)

differentiates co-operative fair-trade businesses such as Planet Bean in Guelph, Ontario, and corporate social-responsibility fair-trade agendas such as that implemented by Starbucks. Through Planet Bean, coffee producers are directly linked with café workers, who can build relationships with consumers (Fridell 2009). While Planet Bean maintains a commitment to consumer education, equitable North–South trade relations, and promoting structural change, Starbucks completes the minimum action needed to reduce public criticism and capture profits in the fair-trade niche market (Fridell 2009). Starbucks's weak commitment to fair trade is demonstrated by its efforts to manipulate consumer perceptions, questionable labour practices in the global North (e.g. use of exploitative prison labour and fighting unionization efforts), and development of an alternative private supplier program with stronger environmental standards but weaker social justice standards (e.g. linking coffee bean prices to market fluctuations) than the Fair Trade certification used by Planet Bean (Fridell 2009). While lowering standards can increase corporate involvement in labelling initiatives and has resulted in a greater proportion of production under these standards, this may do little to change the food system as a whole (Friedmann 2005).

Another key premise of "transition" strategies is that the replication—or "scaling out"— and networking of locally based initiatives acts to create simultaneously both templates for locally based action and the collaboration necessary for a "movement of movements" (Blay-Palmer et al. 2013). Critics have identified two barriers to the effectiveness of this approach: the seemingly incompatible priorities of many of these initiatives, including viable farm incomes and food access (Allen et al. 2003; Mount 2012), and the ineffectiveness of fragmented and local-scale initiatives that address symptoms rather than the structural, state, and global causes of their problems (Holt-Giménez and Shattuck 2011).

A third theoretical barrier—for practical initiatives based in markets—is the "trickle-down" assumption that the shopping habits

of elite consumers create demand for healthier, greener food items, eventually making these items more affordable for all (Friedmann 2005). In the neo-liberal context, rising consumer demand for organic/quality food items may result in a combination of lower state-enforced standards and higher voluntary standards, exacerbating existing social inequalities as wealthy consumers purchase healthy, organic, high-quality food, while poor consumers are left to purchase highly processed, low-quality food (Friedmann 2005). This assumption is based in individualistic neo-liberal logic, and distracts from necessary broad, systemic changes while privileging elite consumers and corporations that profit from the niche markets (e.g. organic, fair trade) promoted in these initiatives (Fairbairn 2012; Levkoe 2011).

As such, some scholars suggest that many "transition" strategies represent mild reforms that will do little to create transformative change in the food system without policy support garnered through demands for fundamental systemic change (Holt-Giménez and Shattuck 2011).

Strategy 3—Transform: Opposition, Protest, and Food Sovereignty

Holt-Giménez and Shattuck (2011) describe the current food system as a set of "tragic records": "record levels of hunger for the world's poor at a time of record global harvests as well as record profits for the world's major agrifoods corporations" (p. 111). Taking a strong stance against productivism, these scholars argue that capital-intensive technology is a key *problem* in the food system, rather than a solution (Hinrichs 2014). Indeed, Holt-Giménez (2013) argues that farmers "are losing their seeds, soil, land and livelihoods as a *result* of the expansion of the large-scale, capitalist agriculture" (p. 970) that characterizes the current food system. Over the past 30 years, low food prices combined with high input costs—including farming technologies and proprietary seeds—drove peasant and family farmers away from farming in both the global North and South. However despite this

seemingly persistent "*crisis* of low prices" (Rosset 2008:460), today, in an era of corporate control over the food system, we are experiencing a crisis of high prices in which people who may have previously grown their own food are going hungry. As such, these scholars argue that little will change without addressing the challenges that tools of the industrial food system—including proprietary technologies, free markets, privatization of resources, monopolies, and corporate power—create for small-scale agro-ecological peasant and family farmers (e.g. Holt-Giménez 2013; Rosset 2008).

For these researchers, the rising food sovereignty movement that protests against the industrial food system is necessary to develop a sustainable food system (Rosset 2008). These scholars call for initiatives that explicitly oppose the industrial food system, and support fundamental transformation by dismantling corporate monopolies and building policy that supports equitable redistribution of land, water, and seed resources (Holt-Giménez and Shattuck 2011). Transforming the food system through broad structural changes requires collective action against the neo-liberal ideology that guides the industrial food system (Guthman 2008) and social pressure to force policy changes (Rosset 2008).

Another key focus in "transform" strategies emphasizes agro-ecological production methods to improve farmers' livelihoods and reduce the environmental impacts of agriculture by respecting traditional farming practices and reducing dependence on costly inputs, proprietary technologies, and seeds (Fernandez et al. 2012; Rosset 2008). Agro-ecological practices improve farm resilience and reduce negative environmental impacts of agriculture by applying ecosystem principles to farming and using biodiversity and natural cycling to reduce inputs that adversely affect the environment (Koohafkan et al. 2012). A study of subsistence farmers in India found that shifting from locally adapted seeds to high-yielding varieties led to a loss of genetic diversity in crops, which reduced crop resilience to environmental stresses such

as pests and extreme weather (Bisht et al. 2014). As such, some scholars argue that agro-ecology supports social and environmental values not provided by highly productive monocultures (Pant 2014).

Two important barriers stand in the way of this strategy: the scale of action required for structural change and the inertia of policy makers. Collective action and social pressure "in opposition" has proven difficult to mobilize—particularly in those societies where the discourse of neo-liberalism has fractured the "common-sense" understanding of the collective social articulation of values. So far the food movement has been more successful in achieving behavioural change (i.e. ethical consumption choices) than the political change envisioned by early activists (Goodman et al. 2014). Bernstein (2014) argues that the expectation of political change based on the tenets of food sovereignty is unreasonable, given the diversity of actors and interests—from peasants to low-income consumers—and the scale of the program necessary to implement change. The latter would involve coordinated efforts to address numerous factors that shape global food systems, including trade liberalization, financialization, austerity, concentration throughout the food chain, control of genetic material, agrofuels, and fossil fuel addiction (Bernstein 2014). As a result, some scholars argue that, while policy-oriented initiatives are important, widespread political change will not happen instantly, and therefore political pragmatism, or a willingness to negotiate, compromise, and accept incremental results is required, since "there are no clear, practical alternatives to incremental change at this time" (Hassanein 2003:84).

While wholesale policy changes may be extremely important for long-term sustainability, many of these policies may take years, if not decades, to implement (MacRae 2011). Perhaps most importantly, policy changes can only be implemented so far as policy makers accept them. If calls for policy change are perceived as unfeasible by policy makers, these calls are unlikely to be heeded. This applies not only to radical changes such as state-level redistribution or reallocation of resources, but also to smaller changes that might rattle the "lock-in mechanisms" of the existing food supply chain, including sunk investments in infrastructure, existing training/expertise, firm values and discourse, power and lobby groups that resist change, and consumer lifestyle and preferences (Geels 2011).

Strategy 4—Demonstrate: Collective Impact

Given the theoretical and practical barriers of "transition" and "transform" strategies, a number of scholars suggest that alternative food system structures and practices must not only help to shape social practice but also demonstrate what is possible by transforming how regional food systems are organized and governed (Lowitt et al., in press). That is, it is not enough that alternative structures are "outside" of conventional market chains or that alternative practices are "different" or innovative: that difference, that innovation must integrate and demonstrate a core set of fundamental values—including collective subjectivities (Levkoe 2011), increased equity, and democratization of control (Cadieux and Slocum 2015)—that are both central and shared strategic priorities. Many have suggested that, since food movements are fragmented in their goals and approaches to the food crisis, there may be a need for "convergence in diversity" (Constance, Friedland, Renard, and Rivera-Ferre 2014) or a common platform that respects this diversity while providing a unified alliance that both protests against the industrial food system and provides an alternative to it (Amin 2011; Mount et al. 2013). This necessitates the construction of broad-based consensus through alliances that pull together farm and food system advocates and demonstrate the full range of value that alternative practices can bring to ecosystem and community resilience, health, and well-being. Such a strategy will entail repoliticization of change strategies by bringing together those working on political or structural

issues and those working "on the ground" to share knowledge and experiences, develop a shared understanding of what must be valued in a sustainable food system, and advance feasible actions and policies to build that system (Amin 2011; Holt-Giménez and Shattuck 2011).

"Demonstrate" strategies differ from "transition" strategies to the extent that they explicitly identify alternative values that are essential to sustainable systems. Practical initiatives create **collective impact** by filling "cracks" in the industrial food system, providing pressure from within the system to open up new spaces of possibility for structural change (Gibson-Graham and Cameron 2007). For instance, agro-ecological production practices and direct markets provide pragmatic actions and everyday practices that may be needed to supplement the broader movements for political change (e.g. Fernandez et al. 2012; Wittman 2009). The need to link political demands with agro-ecology to achieve social, economic, and environmental goals are increasingly apparent as "both NGOs and the farmers realize that simply producing more food more ecologically will not save their livelihoods from the enclosures of the corporate food regime" (Holt-Giménez and Shattuck 2011:126). In a study of farmer-based political initiatives in Brazil, only after rejecting industrial agriculture practices and adopting agro-ecological practices were farmers able to achieve economic stability (Holt-Giménez 2009). Additionally, the initiatives support policy change by combining advocacy with action through founding schools that integrate agro-ecological training with agrarian advocacy (Holt-Giménez 2009).

Of course, as with any broadly defined categorization, the limits of "demonstrate" strategies will be tested. For example, some have suggested that, in the global North—where there are far more consumers than producers—market-based initiatives may provide an opportunity to engage members of the public uncomfortable with political activism (Stevenson, Ruhf, Lezberg, and Clancy 2007). Indeed, market-based initiatives may be vital for successful political action,

if policy change requires public awareness and collective action (Stevenson et al. 2007). Further, if transforming the food system "depends on entrenching alternative values ever more deeply in everyday practices" (Goodman et al. 2014:5), then one means for bringing alternative values into everyday practices is through market-based initiatives that engage a broad spectrum of community members (Stevenson et al. 2007). Therefore, the expansion of alternative markets that enhance social and environmental values, are notably distinct from capitalist markets that value only economic returns, and create community value change through everyday practice will in fact support broader structural change (Andrée, Ballamingie, and Sinclair-Waters 2014).

For many of these scholars, the discourse of the "opposition" strategy paints a totalizing view of neo-liberal political structures that precludes the potential for alternatives to transform the food system (Andrée et al. 2014; Gibson-Graham and Cameron 2007). This capitalocentric thinking ignores the ways in which community-based market initiatives are different from traditional capitalist markets, and instead sees all forms of economic activity in relation to capitalism—whether "the same as, the opposite of, a complement to, or contained within capitalism" (Gibson-Graham and Cameron 2007:23). Criticisms of market-based initiatives—that assume such initiatives unavoidably reflect capitalism and neo-liberalism-by-association—may serve to undermine the transformative potential of such alternatives since "if there is nothing untouched by capitalism, there is no place to stand from which to combat it" (Gibson-Graham and Cameron 2007:21). Focusing too closely on whether market-based initiatives represent true alternatives to the dominant market structure may undermine and weaken community support for alternatives (Gibson-Graham 2006). Rather than focusing on the ways in which current market structures inhibit change, Gibson-Graham and Cameron (2007) advocate the politics of the possible—searching for cracks or spaces of possibility and focusing instead on the ways in which

such initiatives demonstrate a desire to transform the dominant economic model.

Political initiatives that work within neo-liberal structures may have greater potential for adoption (and thus transformation) than radical calls for dismantling existing policies precisely "because of the appearance of mere reformism" (Mount and Andrée 2013:588). Eaton (2013) demonstrates this model in her investigation of the 2001 coalition to ban Roundup Ready (RR) wheat in Canada, which included environmental organizations, consumer interest groups, and producer organizations. Given federal commitment to market competitiveness and export-oriented agriculture, and an insistence by RR proponents that the only appropriate method for determining the suitability of RR wheat in Canada was through the market—i.e. by introducing the product and allowing individual choice to dictate RR wheat sales—the coalition's most convincing argument to ban RR wheat was to demonstrate that RR wheat would threaten Canada's competitiveness in export markets. Working within neo-liberal logic allowed the coalition greater success than a call for dismantling corporate power.

While alternative food initiatives are constrained by neo-liberal structures, they simultaneously influence these structures (Mount and Andrée 2013). As a result of neo-liberal processes of devolution that saw a downloading of responsibilities to regional and local governments—without attendant funding—Mount and Andrée (2013) found an increasing prevalence of hybrid food initiatives made up of public–civil society organization (CSO) partnerships, where government agencies partner with non-profits in order to access alternative funding and deliver public services. Hybrid public–CSO initiatives "may produce a strong base for strategic alliances with widespread discursive appeal and legitimacy" to policy makers (Mount and Andrée 2013:588). Developing new forms of governance not only within but because of the neo-liberal context "constitutes an important point of egress for AFNs, allowing local and regional actors to re-frame their relations in a common-sense manner, and negotiate regionally responsive policies and regulation" (Mount and Andrée 2013:588).

There is no doubt that actions in hybrid spaces are susceptible to co-optation, a possibility in any complex governance arrangement that invites both democratization and diverse priorities. Additionally, spaces neglected by the state lack state funding, making any initiatives inhabiting these spaces precarious. Finally, by addressing the negative outcomes of neo-liberalization without specifically highlighting and challenging root causes, these actions face the charge that they are simply dressing wounds while providing implicit support for neo-liberal policies. Yet where such acts demonstrate the possibility of alternative value constructions that respond to local needs, they demonstrate the potential of strategies that operate within the cracks of neo-liberalism.

Visualizing Sustainable Food Systems: Implications of Scale

As scholars and food systems practitioners theorize *how* to develop sustainable food systems, they must also consider *what*, precisely a sustainable food system entails—in terms not only of values but also of the infrastructure and policy that supports those values. Given the increasing market share of organic and fair-trade alternatives, combined with characteristics such as product certification and global supply chains that make such alternatives compatible with the conventional food system, these two initiatives may most effectively support the development of a sustainable food system. Yet while both organic and fair-trade initiatives have improved aspects of the conventional food system in terms of environmental and social standards, respectively, they have also suffered from consumer skepticism and criticism over relaxed standards and the conventionalization of production and marketing practices (Guthman 2004; Lockie and Halpin 2005; Smith and Marsden 2004). Conventionalization occurs when an

alternative niche falls prey to increased competition, intensification of production, concentration of markets, falling premiums, and a loss of producer control (for discussion, see Mount and Smithers 2014). The spectre of conventionalization limits what change strategies are possible, since sustainable food systems must be based on long-term viability for producers; structures that reproduce conventional outcomes—that is, food chains based on diminishing returns and lack of producer control—will only serve to discourage producers who are looking to alternative systems for alternative outcomes (Mount and Smithers 2014).

Such criticisms imply that local food systems may be better suited to support sustainable food systems. Yet one of the challenges of developing sustainable food systems stems from the fact that many of the factors that influence these systems—including trade, investment, regulations, and governance—operate across multiple scales, from local to global. These factors are primarily designed to facilitate global conventional food systems, yet they often raise barriers that interfere with the operations of alternative and local food systems. Most often these barriers come in the form of subsidies that lower the prices of conventional products and regulations designed to ensure that food produced and processed in large-scale industrial facilities meet food safety or international trade standards—regulations that are entirely inappropriate to the scale and practices of regional food systems (Blay-Palmer, Landman, Knezevic, and Hayhurst 2013; Mount et al. 2013).

In North America, despite the growth over the last decade of direct sales and alternative initiatives, most local food markets remain under-supplied (Boecker and Micheels 2015; Low et al. 2015). One persistent critique suggests that, without an increase in scale that involves more people, more food, and a larger proportion of economic activity, they will not have a significant impact on the broader food system (Goodman 2004; Mount 2012; Stevenson and Pirog 2008). While education and demonstration

are critical components of the modern, increasingly urban sustainable food system, in order to provide a platform for sustainable food system development and regional self-reliance (Clancy and Ruhf 2010), these alternatives must include and incorporate increased production for localized markets in peri-urban and rural regions. Of course, while increasing in scale, these alternatives must not only avoid reproducing the issues of the systems that they are replacing, they must also be seen to actively address those issues. Practically, this means that alternative systems must avoid potential pitfalls—including conventionalization and conflicts in managing supply—while developing alternative infrastructure and methods of governance, in order to increase in scale while producing sustainable outcomes.

While much of the early Canadian growth in alternatives has resulted from *scaling out*—that is, reproducing successful, small initiatives in multiple communities—for many the question remains whether these initiatives can *scale up* without losing important values and legitimacy. While small-scale alternatives could increase efficiencies through increased scales of operation, the challenge comes in doing so without sacrificing qualities that are essential to the success of small-scale initiatives, including transparency, accountability, trust, reassurance, and authenticity (Mount 2012; Rogers and Fraszczak 2014). In this regard, the lessons of the conventionalization of the organic sector serve as a cautionary tale for many alternatives. Increased scale without appropriate attention to methods that ensure viable farm incomes and enhance the connections between producers and consumers will create the conditions for the reproduction of conventional outcomes (Mount and Smithers 2014).

One significant barrier to scaling up is the fact that the aggregation, processing, distribution, and marketing infrastructure that would support local or regional-scale systems either has disappeared or is ill-equipped to meet the requirements of modern, alternative markets. While appropriate physical infrastructure receives much

attention and funding in this regard (Mount 2012), without matching social infrastructure these changes will not demonstrate a viable alternative or build the support required to challenge the status quo. This social infrastructure must build alternative ways of valuing and interacting within a governance structure that fits together the complex human interests, priorities, and relationships—and their food chain—in ways that make sense. Sustainable food systems require a fine balance between elements that may appear incompatible on a spreadsheet, including producer viability, ecological enhancement, and broader social accessibility to fresh, nutritious food. Infrastructure to reproduce these systems will almost certainly require new organizational and governance structures—including co-operative and not-for-profit elements that encourage regional collaboration (Lamine 2015; Pirog, Harper, Gerencer, et al. 2014; Sumner, McMurtry, and Renglich 2014), allow for the negotiation of diverse priorities (Mount 2012), and enable the development of shared markets and values-based food supply chains (Clancy and Ruhf 2010; Renglich 2015).

However, it is early days for these efforts to scale up. Attempts to fit new alternatives into existing food distribution and marketing structures have run up against the rationales and practices that drive those structures (Bloom and Hinrichs 2010). Many communities and regions are investing in or otherwise encouraging new infrastructure—including both market-driven and co-op food hubs—as a means of offering maximum return to producers while maintaining transparency and connections throughout the food chain (Cantrell and Heuer 2014), and delivering regional economic multiplier effects (Schmit, Jablonski, and Kay 2013). It remains to be seen which models can balance the seemingly incompatible over the long term—that is, whether market-based models can balance profit with increased community food access and ecological benefits, or alternative models can deliver producer viability along with social justice and fresh, nutritious food.

Whether scaling up or scaling out, pressures of managing and maintaining supply are inevitable (Mount, in press)—as success will attract more producers looking for high rates of return, and with increased supply, market pressures will push prices down. At the same time, larger numbers of "players" will inevitably increase the number of differing priorities to be reconciled, leading to more complex, messier governance structures. This is a critically important concern for those advocating the "collective impact" theory of food systems change. As various alternative political and practical initiatives converge, there is a need to consider which sorts of policies and governance structures support collaboration. Movements are not built on assumptions of shared values and goals, derived from umbrella concepts—such as "peasant," "food sovereignty" or "ethical consumer" (see Bernstein 2014)—but on willingness and ability to appreciate and accommodate diverse priorities, extract commonalities, and work toward mutually beneficial food systems. Collaboration is essential to produce tangible, identifiable regional examples that will demonstrate alternative value conceptions, challenge accepted wisdom, and therefore serve more effectively to garner support in the context of productivist and neo-liberal discourse that supports and entrenches the conventional agri-food system.

The defining features of neo-liberalism include privatization of what is public and marketization of everything else; deregulation to reduce state interference in the free market and reregulation to provide state interference that facilitates privatization and marketization; running public services as if they were businesses; and encouraging civil society to provide public services that do not lend themselves to bottom-line business assessments (see Castree 2008). The latter is particularly relevant to the "reform," "transition," and "demonstrate" strategies which, by ameliorating the worst of the social and environmental effects of the current system without addressing root causes, could be accused of creating the conditions for its reproduction.

Neo-liberalization relies fundamentally on a discourse which delivers the tenets of neo-liberalism with the ring of common sense. Eaton (2013) suggests that neo-liberalism in practice not only aims to adjust political economic policies in favour of agri-business, it also aims to influence how people understand the world, thereby influencing how people act. Neo-liberal discourse influences how people (such as farmers, social movement actors, and Canadians) perceive what is possible (Guthman 2008) and "makes certain policies and explanations seem natural . . . and others seem unfair" (Eaton 2013:xv).

While proponents of neo-liberalism extol the benefits of unfettered capitalism, "the very idea that the state *can* be taken out of the market is not based on the actual history of capitalism [which] reveals that capitalist social and political relations have always required a strong state to create and reproduce them" (Fridell 2013:13). These mutually reinforced bonds shape the food system: corporate influence led to neo-liberal restructuring in the Canadian food system during the 1980s (Qualman 2011), and continues to this day—for example, in multinational free-trade agreements (Fridell 2013). Trade agreements are market rules constructed by the state, and the state is a key player in ensuring the rules are followed (Fridell 2013). While proponents of capitalism may oppose state interference through social and environmental regulations, they rely on an authoritative state, both to enter into and to uphold trade agreements and capitalist market structures.

Some strategies, including those based on sustainable intensification, may place too much power in neo-liberalism and capitalism as monoliths that enforce a food system that cannot be changed—only amended. Yet strategies that advocate transformation of the food system through political demands may leave no place to stand from which to combat neo-liberalism. Other strategies find space to work around neo-liberal structures and create pockets of alternatives within the industrial food system, viewing these pockets as cracks within neo-liberalism that could be expanded to change the food system as a whole; cracks that demonstrate the possibilities for a more sustainable food system built on social equity, environmental justice, and economies that support communities.

Conclusion

While scholars have advocated a variety of strategies for developing sustainable food systems, the highest transformative potential may result from a strategy that supplements a broader movement for political change with pragmatic everyday practice (Marsden and Franklin 2013). Strategies that are capital intensive, technology based, and focused on increasing production may exacerbate key problems in food system sustainability, as such solutions do not drastically differ from those offered by the Green Revolution, which did little to alleviate widespread hunger, loss of peasant and family farmers, and environmental degradation (Holt-Giménez 2013). Some scholars instead see solutions in strategies that centre on people, whether through the provision of alternatives, demands for radical reform that supports producers and consumers, or a demonstration of collective values. Solutions based in political change are logistically complex, while solutions based in practice may suffer from parochialism. To build a sustainable food system may require a strategy that infuses solutions based in practice with the capacity to demonstrate the need for, and feasibility of, political change.

Advocates and practitioners must converge to facilitate transformative change since neither demands for radical change nor community-based initiatives will change the food system alone (Transnational Institute 2012). There is some evidence for growing convergence in Canada, as research has shown that many food organizations operate simultaneously within public, private, and community spheres, and that core priorities and projects change over time as new challenges and opportunities arise

(Mount and Andrée 2013). Hybridity and fluidity within organizations indicate the difficulty in attempting to classify alternative food organizations as utilizing one of "transition," "transform," or "demonstrate" strategies. In turn, the difficulty of classifying food-movement practices highlights the challenges inherent in creating distinct strategies in theory, based on food-movement practices and approaches that often overlap or complement one another, even within one organization. These theoretical barriers provide an optimistic vision of the potential for the food movement to change the food system, as the overlap demonstrates possibilities for movement-building through alliances between diverse organizations. Additionally, the overlap demonstrates possible spaces and mechanisms for collaboration—between organizations, between those with diverse priorities, between political and pragmatic strategies—that will be essential in developing a sustainable food system.

Although there is a clear need for political change to facilitate development of a sustainable food system, initiatives that create alternatives within the current food system may be an important first step toward this change, particularly considering the current popularity of these initiatives (Marsden and Franklin 2013). Production-oriented and certain forms of market-based activities (i.e. network-based markets) provide an opportunity to engage in pragmatic, on-the-ground activities simultaneously with broader initiatives for political change (Goodman et al. 2014; Wittman 2009). Systemic change demands community engagement; initiatives that aim to engage consumers may be necessary to ensure that policy outcomes are supported by the public (Hinrichs 2014). That is, the prevalence of alternative markets may provide the means for creating a change in what people view as possible.

Yet as alternative markets increase in scale—by either scaling up or scaling out—we must consider carefully the qualities and values needed in a sustainable food system, and whether (and which) trade-offs must be made to maintain adequate food supplies. Infrastructure required to reproduce this system includes new organizational and governance structures—including co-operative and not-for-profit elements of the true food value chain. Balancing essential scale production in peri-urban and rural regions may be needed in the modern, increasingly urban sustainable food system, and education and demonstration are critical components of food system change strategies. Changing public perceptions of the way things are, the way they ought to be, and the possibilities for getting there may help destabilize the monolith of neo-liberalism and allow niche alternative markets to expand their reach, ultimately leading to the development of a sustainable food system.

Discussion Questions

1. What are some ways that individuals can support broad change in the food system?

2. What problems remain unsolved if we rely on technology to improve our food systems?

3. Would the value that adheres to "local food" be lost at a greater scale?

4. How does "neo-liberalization" influence what we think is possible as we aim to create a more sustainable food system?

Further Reading

1. Garnett, T., M.C. Appleby, A. Balmford, et al. 2013. "Sustainable Intensification in Agriculture: Premises and Policies." *Science* 341:33–34. doi: 10.1126/science.1234485

    This article defines *sustainable intensification* and explores the potential for this strategy to improve food security in the context of climate change and a growing global population. The authors outline four key premises that must underlie sustainable intensification: increasing food production, containing the increased production on existing farmland, improving environmental sustainability, and emphasizing context-dependent agricultural techniques.

2. Gibson-Graham, J.K., and J. Cameron. 2007. "Community Enterprises: Imagining and Enacting Alternatives to Capitalism." *Social Alternatives* 26(1):20–25.

    Gibson-Graham and Cameron consider how community enterprises (i.e. enterprises that combine economic goals with community benefit goals) provide an alternative to capitalism. The authors deconstruct common criticisms of these alternatives, including their lack of economic competitiveness; reinforcement of the hollowed-out, neo-liberal state by taking on state responsibilities; powerful capitalist structures that cannot be overcome; and their individualistic nature. Arguing that such criticisms serve to undermine these enterprises as alternatives, and separating capitalism from market activity, the authors provide a platform from which to stand to combat capitalism. They consider ways in which scholars and activists might support community enterprises, through both action research and purposeful consideration of alternatives to instigate a material and discursive shift toward a just economic system.

3. Hinrichs, C. 2014. "Transitions to Sustainability: A Change in Thinking about Food Systems Change?" *Agriculture and Human Values*. doi: 10.1007/s10460-014-9479-5

    Providing an overview of the concept "sustainability transitions" within the context of food systems, Hinrichs reviews two key analytical perspectives on sustainability transitions: the "multi-level perspective" (MLP) and the "social practices approach" (SPA). She outlines how these two perspectives can inform, and be informed by, food systems research, arguing that the MLP provides a framework to theorize drivers of sustainable food systems transitions, while the SPA emphasizes the importance of community engagement. She concludes that outcomes based solely on policy changes are unpredictable, and manager-driven transitions are unlikely to be successful without community support. As such, successful transitions must begin with dialogue that engages everyone.

4. Holt-Giménez, E., and A. Shattuck. 2011. "Food Crises, Food Regimes and Food Movements: Rumblings of Reform or Tides of Transformation?" *Journal of Peasant Studies* 38(1):109–44. doi: 10.1080/03066150.2010.538578

    This article provides an analytical framework outlining approaches to the food crisis, with approaches conceptualized as "Neoliberal" or "Reformist" (enacted through the corporate food regime) and "Progressive" or "Radical" (enacted through the food movement) characterized by their approach to create change, definition of a sustainable food system, key institutions, key documents, and discourse. The authors argue that transforming the food system depends on actors within the food movement, rather than those within the food regime, and that the transformative potential of the food movement depends on its political nature.

Video Suggestions

1. Fraser, E. 2014. *Empowering Small Scale Farmers in the Developing World Part I.* https:// feedingninebillion.com/video/reducing-food -insecurity-developing-world. 6 min.

Examines the role of science and technology in reducing food insecurity.

2. **Gibson, K. 2013.** *Take Back the Economy: Distinguished Speaker Lecture for the Centre for Co-operative and Community-Based Economy.* https://www.youtube.com/watch?v=NvHB5BsLv24. 52 min.

    Explains the "politics of the possible" in interpreting

economic structures and advocates reclaiming the economy to better serve all people.

3. **Transnational Institute. 2012.** *Eric Holt-Giménez: What Challenges Do Food and Farming Movements Face Going Forward?* https://www.youtube.com/watch?v=F5M7WW9yZIs. 3 min. Discusses bringing together advocates and practitioners to reform food systems.

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