

## 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).

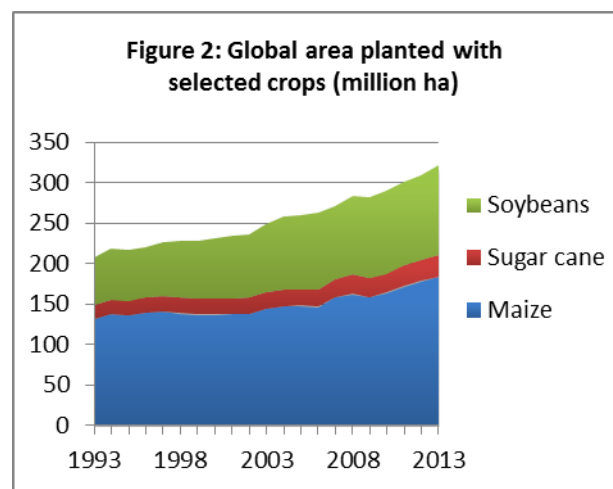
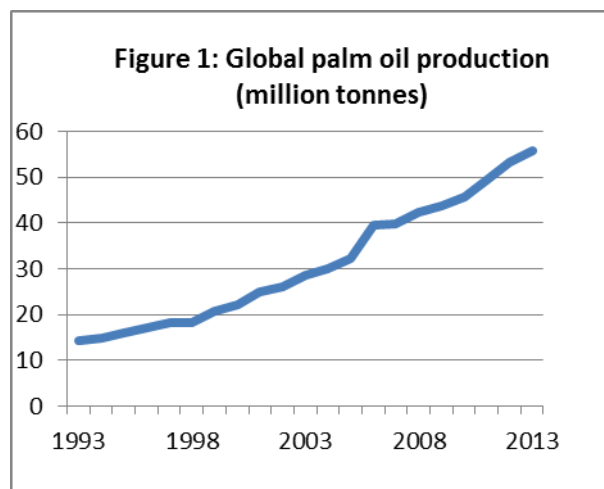
Despite these new rules, new themes, and new actors, not much has changed on the ground. In many places, biofuel production or use targets are still at the top of the policy hierarchy, leaving the question of not whether, but how they should be met. The expansion of biofuel production has not stopped, 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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