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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

Jessica Duncan

Assistant Professor, Rural Sociology, Wageningen University

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

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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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