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#### Research paper

## A diagnostic framework for food system governance arrangements: The case of South Africa

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#### ABSTRACT

Although policymakers and scientists are increasingly embracing the food system perspective, it has been poorly reflected in institutional terms. We aim to fill this gap by addressing the question as to what forms of governance are most appropriate to govern food systems in a more holistic way. The article presents a diagnostic framework consisting of five principles: 1) system-based problem framing to deal with interlinked issues, drivers and feedback loops; 2) connectivity across boundaries to span siloed governance structures and include non-state actors; 3) adaptability to flexibly respond to inherent uncertainties and volatility; 4) inclusiveness to facilitate support and legitimacy; and 5) transformative capacity to overcome path dependencies and create adequate conditions to foster structural change. This framework is used to analyse the strengths and weaknesses of three food governance arrangements in South Africa, each of which deliberately aimed to embrace a holistic perspective. Although promising on paper, the outcomes are disappointing because of a reversion to a technical onedimensional problem framing during the implementation, the dominance of single departments, the limited attention to monitoring and flexible responses and the exclusion of those most affected by food insecurity. We conclude that the tensions between the ambitious objectives of the arrangements and the institutional constraints of implementing them can persist because of inadequate resources to facilitate transformative change. Finally, we propose an agenda to further elaborate the framework and improve its practical usefulness.

#### 1. Introduction

Food security in Africa is high on the policy agenda of governmental authorities, business actors, NGOs, and scientists throughout the world (Candel, 2014; Daugbjerg and Swinbank, 2012). Nowadays, food security is connected to an endless list of old and new challenges, such as the effects of environmental change including land degradation, loss of biodiversity, and changes in climate and weather patterns (Ericksen et al., 2009; Fresco, 2009; Cardinale et al., 2012); the expected growth of the world population and wealth together culminating in the growing demand for energy-dense foods, especially animal proteins (Daugbjerg and Swinbank, 2012; Fresco, 2009); the variability and volatility of food prices (Ericksen and Ingram, 2009); the increasing speed of urbanisation and (young) people moving out of the agricultural sector (Fresco, 2009) the unequal distribution of land rights among castes, classes, and gender (Peters and Pierre, 2014); the

increasing vulnerability of production systems, especially among the poor who have no resource buffers (Fresco, 2009); the societal concerns regarding production technologies (Marsden, 2013); the juxtaposition of hunger and obesity (Sonnino et al., 2014); the human rights to food (Duncan, 2015); the triple burden of malnutrition (Gómez et al., 2013); the pledge of food sovereignty (Kennedy and Liljeblad, 2016), and the increasing importance of food for national security (Peters and Pierre, 2014).

To enhance the necessary broader discussion on food security scholars have promoted the 'food system concept' (GECAFS, 2009; Ericksen, 2006; Ingram, 2011). It starts from the observation that much of the food security debate has traditionally centred on agricultural production and hunger alleviation, and that consequently interventions are narrowly linked to the work of specific NGOs and governmental institutions, usually those dealing with agriculture (Ingram, 2011). The food system concept aims to elucidate the interconnected relationships

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between various activities in the commodity chain (producing, distributing, trading, consuming of food); various issues linked to food security outcomes (access, availability, utilisation, nutrition); various interactions across scales (time, space, jurisdiction) and levels on them; and various socio-economic and environmental constraints and impacts (GECAFS, 2009; Ericksen, 2006; Ingram, 2011). More recently, policymakers and international organisations have been increasingly embracing this food system perspective (FAO, 2013). As a consequence, the food system concept has evolved into a normative concept, instead of being analytic, helping decision makers to choose the right model for their specific institutional contexts (Rodrik, 2010).

To date, this food system concept is poorly reflected in institutional terms at local, national, and international level (Fresco, 2009; Kennedy and Liljeblad, 2016; Hospes and Brons, 2016). Approaching food from a system perspective reveals and in turn enhances important governance challenges and opportunities, because it requires more holistic forms of governance. By its nature, food governance institutions are fragmented and cut across the usual boundaries between sectors, administrative jurisdictions, public and private domains, temporal and spatial scales and diverse normative frameworks. The interdependencies of actors, activities, and problems within the food system challenge the efficacy of traditional modes and strategies of governance (Siddiki et al., 2015). It is an attractive proposition for actors with a change agenda to emphasise that food cannot be dealt with appropriately by the current fragmented institutional architecture, and that therefore, "the governance system should be made more coherent and harmonized, better integrated and coordinated, and more inclusive" (Candel, 2014). This may result in steering strategies such as top-down integration, new coordination structures, or mandatory mainstreaming. Hajer et al. (Hajer et al., 2015) refer to this phenomenon as cockpit-ism: the illusion that top-down steering by governments and intergovernmental organisations alone can address global problems. Others emphasise that improving food security requires a careful diagnosis of existing institutions and the tailoring of policy interventions to these varied institutional conditions (Vink et al., 2016). Little is known, however, about more appropriate food system governance arrangements that reflect a realist and context specific perspective on governance (Candel, 2014).

Against this background, this article addresses the question as to what forms of governance are most appropriate to govern food systems in a more holistic way? This paper firstly presents a framework to diagnose these food governance arrangements. Therefore it synthesises various strands of literature into a multi theoretical model of five principles that are crucial for governance arrangement that embrace a food system approach. We refer to these arrangements as food system governance arrangements. Secondly, this framework is illustrated by an analysis of the strengths and weaknesses of three South African food governance arrangements, which are selected because they go beyond a single agricultural production frame, involve a broader spectrum of challenges and fit into a system perspective. Finally, the article discusses the results and proposes an agenda to further elaborate the framework and its practical usefulness.

#### 2. The five principles framework

Although the number of articles on food governance is increasing (e.g. (Candel, 2014; Sonnino et al., 2014; Duncan, 2015; Siddiki et al., 2015; Bizikova et al., 2014; Boström et al., 2015; Drimie and Ruysenaar, 2010; Jayne et al., 2006; Lamine, 2015; Purdon, 2014)), only a few have explicitly touched upon the topic of governance from a food system perspective. To fill this gap, we have developed a framework to analyse and diagnose food system governance arrangements. This framework departs from the outcomes of a systematic literature review of food system governance conducted by Hospes and Brons (Hospes and Brons, 2016). This review concludes, among others, that food system governance is an emerging field of study that requires

further development. Therefore we have added governance insights from system-oriented approaches in other more or less related research fields, such as agricultural systems (e.g. (Klerkx et al., 2012; Schut et al., 2015)); earth systems (e.g. (Biermann et al., 2009; Kark et al., 2015)), social ecological systems (e.g. (Boyd and Folke, 2011; Folke et al., 2005; Galaz et al., 2012)), and integrated water management systems (e.g. (van Broekhoven et al., 2015; Dewulf et al., 2011; Bressers and Lulofs, 2010; Edelenbos and van Meerkerk, 2015)). The resulting framework consists of five interrelated principles for appropriate food system governance arrangements: system-based problem framing; boundary-spanning structures; adaptability; inclusiveness and transformative capacity. The five principles framework is meant to diagnose food system governance and not the food system itself. It goes without saying that these principles are not exclusive for food system governance.

The first principle of system-based problem framing addresses the challenge of moving beyond one-dimensional problem frames (Dewulf et al., 2011). A frame is a selection of "some aspects of a perceived reality" in such a way as "to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation" (Entman, 1993). Because the food system involves many interacting subsystems (Schut et al., 2015), it cannot be reduced to narrow problem frames - of, for example, undernutrition, vulnerable agricultural production, land reform conflicts, poor infrastructure, or biodiversity loss - that do not address system intricacies (Sonnino et al., 2014). Thus far the conceptualization of food systems by Ericksen (Ericksen, 2008) is the most comprehensive (Hospes and Brons, 2016). It comprises of interconnected activities and outcomes embedded in a dynamic environment driven by social-ecological change, and leading to multiple feed-forward and feed-back signals. A system-based problem framing thus rejects "quests for a single framing of the problem" (Duncan, 2015) and requires food governance arrangements that enhance reflexivity "in which people engage to discuss tensions regarding group objectives, recognize contradictions, and deal with differences in a respectful way" (Clancy, 2014). However, the construction of too broad and too vague problem frames, may paralyse policymakers. Therefore we follow Gray (Gray, 1989) who emphasises the importance of a connection of different issue frames in a jointly meaningful story that can generate guidance and commitment.

The second principle of boundary-spanning structures addresses the challenge of fragmented siloed organisational structures (Bizikova et al., 2014; Drimie et al., 2011a). Food systems inherently involve many subsystems. Decisions that may impact food activities and outcomes occur across a range of spatial, temporal, and jurisdictional scales, and involve a wide range of public and private actors (Hospes and Brons, 2016; Holmes et al., 2010; Ingram et al., 2013). These decisions are all embedded in different subsystems, like health, environment, agriculture and economics-, which have particular interests, ways of addressing problems, time pressures and historically grown networks (Schut et al., 2015; May et al., 2013). The boundaries between these subsystems are not only physical and organisational, but also cognitive and social (van Broekhoven et al., 2015). Whereas some degree of institutional fragmentation may increase the innovativeness of the system, too much (conflicting) fragmentation can result in bad performances (Biermann et al., 2009; Folke et al., 2005). The challenge lies in connecting different policy subsystems through spanning boundaries, such as integrated programmes, coordination schemes, public-private partnerships, multi-stakeholder platforms, integrated participatory analysis, or mutual gains processes (Schut et al., 2015; Kark et al., 2015; Bressers and Lulofs, 2010; Edelenbos and van Meerkerk, 2015; Kettl,

The third principle of *adaptability* addresses the challenge of uncertainties and volatility (Clancy, 2014; Pereira and Ruysenaar, 2012) in non-linear systems. Though the need for adaptive governance is emphasized in many publications, in particular those that conceptualize food system as a social-ecological system, it has hardly been empirically

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