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Food security governance: a systematic literature review

Jeroen J. L. Candel

Abstract The role of governance has been receiving increasing attention from food security scholars in recent years. However, in spite of the recognition that governance matters, current knowledge of food security governance is rather fragmented. To provide some clarity in the debate about the role of governance in addressing food (in)security, this paper reports the results of a systematic review of the literature. The synthesis revolves around seven recurring themes: i) the view of governance as both a challenge and solution to food security; ii) a governability that is characterized by high degrees of complexity; iii) failures of the current institutional architectures; iv) the arrival of new players at the forefront; v) calls for coherency and coordination across multiple scales; vi) variation and conflict of ideas; and vii) calls for the allocation of sufficient resources and the integration of democratic values in food security governance. Two lines of discussion of this synthesis are raised. First, the researcher argues that a large proportion of the food security governance literature is characterized by an optimistic governance perspective, i.e., a view of governance as a problem-solving mechanism. Complementing this body of literature with alternative governance perspectives in future research may strengthen current understandings of food security governance. Approaching food security as a ‘wicked problem’ could provide valuable insights in this respect. Second, food security governance as a research field could make headway by engaging in further empirical investigation of current governance arrangements, particularly at sub-national levels.

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Introduction

Food security has received much attention in recent years, from both academics and non-academics (Lang and Barling 2012; Allen 2013). This increase in attention is particularly noticeable after the 2007–2008 and 2010 world food price crises and the 2008 World Development Report, which called for greater investment in agriculture in developing countries. These events made clear that, in spite of decades of efforts to eradicate hunger and malnutrition, food insecurity is still a significant problem. Furthermore, it has become increasingly clear that food security is strongly interlinked with other issues, such as global environmental change and energy markets, and that its policy environment is undergoing transformation and globalization (Lang et al. 2009; Ingram et al. 2010). For those reasons food security has become a concept that finds wide resonance among academic institutions and in policy considerations (Mooney and Hunt 2009; Candel et al. 2014).

Within these recent food security debates, the role of governance has been attracting increasing attention. This development stems from the often-heard notion that food security solutions or approaches should not only address the technical and environmental dimensions of the issue, but also take social, economic, and political aspects into account (von Braun 2009: 11; FAO 2012; Wahlqvist et al. 2012; Maye and Kirwan 2013). Katrien Termeer (in: Kropff et al. 2013: 128), for example, stated that “food security cannot be realized by means of idealistic plans or new technologies only. It requires advanced steering strategies that involve governments as well as companies, NGOs and citizens.”

The concept of governance has been used and developed in a broad range of academic disciplines, resulting in a plurality of definitions and applications (for an overview, see: Kjaer 2004). Here, I follow Termeer et al. (2011: 160) in choosing a broad definition of governance as “the interactions between public and/or private entities ultimately aiming at the realization of collective goals.” *Governance* is generally differentiated from *government*, which is associated with more hierarchical and state-centered modes of managing public issues (e.g., Pierre and Peters 2000; Kersbergen and v., and Waarden, F. v. 2004). As the above quote illustrates, in recent years the concept of governance has been increasingly applied to the notion of food security,¹ which is most often defined as “all people, at all times, having 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” (FAO 2003) and which is constituted by the elements food availability, food access, and food utilization, and their stability over time (FAO 1996). These interactions take place both within and outside food systems (cf. Ericksen 2008; Ingram 2011), and cover factors such as food prices, agricultural trade, poverty reduction, infrastructure, education, and crisis management. In addition to interactions aimed at improving food security, food security governance is about managing the context in which these interactions take place (cf. Jessop 2003).

What is striking is that, in spite of these various calls for food security governance, it is not very clear yet what food security governance entails, what its essential characteristics or features are, and how it could be enhanced. The aim of this paper is therefore to: i) provide a state-of-the-art of the current state of knowledge about food security governance, ii) provide a critical appraisal of this state of knowledge, and iii) lay out an agenda for future research.

These research objectives were addressed by performing a systematic review of both academic and grey literature elaborating on food security governance. This paper presents the synthesis that resulted from this review as well as the researcher’s critical appraisal of the state of the research field. Here, it is important to note that, although many concrete global, national, and local food security initiatives, programs, and projects have been both developed and studied, the focus of this article is primarily on that part of the literature, which studies these initiatives and interactions through an explicit governance lens, in which governance is both study objective and theoretical perspective. Also, although this study focuses explicitly on the relatively recent literature on food security governance, this is not to say that there was no governance of

food security before the introduction of the notion. On the contrary, governance of food and food security are probably as old as man (cf. Diamond 2005).

The reason for choosing a systematic review method is the assumption that bits and pieces of knowledge regarding food security governance already exist, but that these have only sparsely been linked to one another. In other words, there is no clear overview of the food security governance literature. On the one hand, this has proved to be an advantage, because, as shown in the fourth section, it has resulted in complementary insights from various schools, disciplines, and approaches. On the other hand, however, it has prevented the realization of a combined understanding up to now. This article aims to fill this gap.

The article proceeds in section 2 with a description of the systematic review methods used. In section 3, the data, i.e., the body of included literature, are described. Section 3.1 sets out the key characteristics of the literature, 3.2 gives an overview of the various conceptualizations of food security governance in the literature. A synthesis of the literature is presented in section 4 along seven recurring key themes. This synthesis is reflected upon by the researcher in the discussion section, which revolves around two lines of discussion: section 5.1 elaborates on the dominant governance perspective within the literature and 5.2 on the current state of the research field. The article ends with some brief conclusions.

The systematic review process

The advantage of using systematic review methods over other review types is that researcher bias can be limited and made visible (Petticrew and Roberts 2006). Systematic methods require a certain structured way of working, the use of clear inclusion and exclusion criteria to select eligible literature, and a positive attitude towards transparency, in both doing the analysis and reporting findings. They urge the researcher to take the reader by the hand and walk him/her step by step through the procedures followed and the choices made during the research process. Thus, systematic review methods can enhance the trustworthiness of the conducted research, and, consequently, the legitimacy of claims being made (Gough et al. 2012).

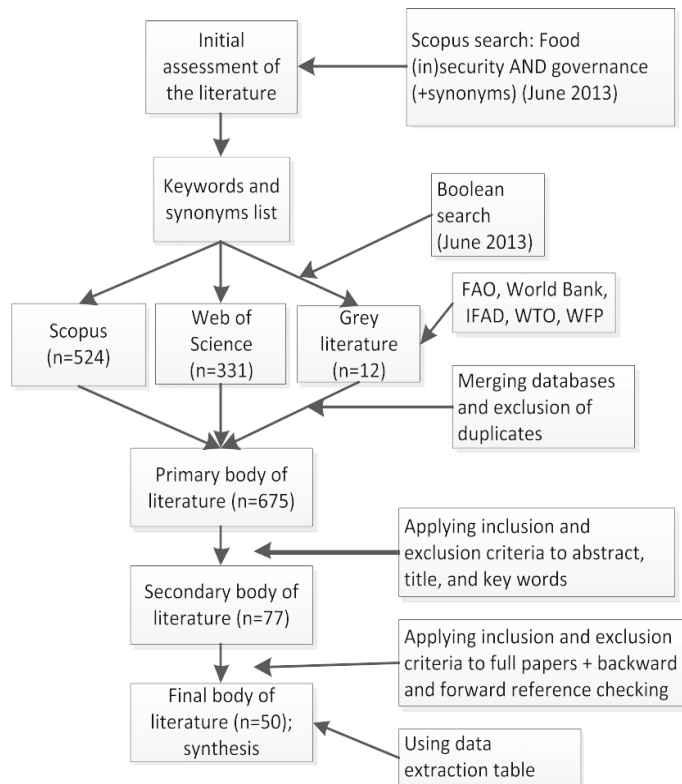
Data collection

The data collection process is depicted schematically in Fig. 1.

First, an initial assessment of the literature was performed in Scopus to develop a query. Besides governance, similar concepts that are more common in specific academic communities, such as stewardship and management, were included. The resulting query, consisting of the terms ‘food (in)security’

¹ Food security governance here refers to the governance of food security, and not to a specific type or mode of governance. Food security governance and governance of food security are used interchangeably in this article.

Fig. 1 Data collection process, based on (Biesbroek et al. 2013a)



and (synonyms of) ‘governance’ (Electronic [Supplementary Material I](#), henceforth: ESM), was used to search academic articles, reviews, articles in press, and conference papers in two digital bibliographical databases: Scopus and Web of Science. Scopus and Web of Science were both chosen to prevent either European (Scopus) or American (Web of Science) bias. Grey literature was retrieved by searching Google Scholar, and the websites of five organizations. Although Google Scholar has some serious limitations in relation to performing a systematic review (cf. Anderson 2013), it did provide two relevant documents that could not have been retrieved otherwise. I therefore chose to accept this impurity for the sake of the comprehensiveness of the included body of literature. The organizations whose websites were searched were the UN Food and Agriculture Organization (FAO), the World Food Programme (WFP), the World Trade Organization (WTO), the International Fund for Agricultural Development (IFAD), and the World Bank. These organizations were selected on the basis of a Google Scholar search using the query ‘food security governance.’

For the academic databases, this query was restricted to the titles, abstracts, and keywords of articles. The first search led to 663 academic articles,² 2 additional academic publications

² Duplicates excluded.

on Google Scholar,³ and 10 texts from global organizations, of which 2 were academic publications.⁴ All abstracts were loaded in Endnote and read. Academic articles were judged potentially relevant when they matched the inclusion criteria (ESM II) ($n=65$). Reflections were included on both concrete food security governance arrangements and food security governance in general. Also, both empirical and theoretical or conceptual articles and documents were considered potentially relevant.

Full papers were read and judged again using the inclusion and exclusion criteria. This led to a final body of academic literature of 30 articles. Backward and forward reference checking led to 8 more articles (ESM III). Including the 2 Google Scholar and 10 international organization articles this led to a total of 50 documents.

³ I scanned the first twenty pages of results. All other relevant results had already been retrieved by searching Scopus and Web of Science, global organizations’ websites, or reference checking.

⁴ Eight from the FAO website, two from IFAD. Searches on the other websites did not lead to relevant results.

Data analysis

All articles and other documents were read again, and the data were collected in a data extraction table (ESM IV). The data extraction table presents the results literally, without interpretation by the researcher, and includes the following categories: governance level, governance locus, type of document, method, theoretical orientation, conceptualization of food security governance, core argument and insights into the nature of food security governance, and recommendations made to improve food security governance. The table is a summary of the key insights into food security governance that each document provided, and it served as the basis for the synthesis.

Before the synthesis was written, the various insights in the table were compared to one another and grouped under the main themes that recurred throughout the literature. This provided the opportunity to identify differences and similarities between the data, and to interpret these. The resulting seven themes eventually became the headings of the synthesis. The synthesis is thus the researcher's endeavor to bring together the core observations and arguments throughout the data extraction table and associated literature.

Limitations

Despite its attempt to provide a review of a body of literature that is as comprehensive as possible, this review has some serious limitations. First, only documents written in English were included. The initial search led to several results in other languages, such as French, Spanish, and Portuguese, that could be highly relevant for the purposes of this review but were excluded nevertheless (e.g., Lerin and Louafi 2012; Postolle and Bendjebbar 2012; Soula 2012). Second, the review is heavily skewed towards academic peer-reviewed articles. Although some book chapters, conference proceedings, and grey literature documents were included, complementing the body of literature with books, dissertations, and more grey literature could lead to additional insights. This is especially true for books and book chapters, which proved difficult to retrieve by searching digital databases. Third, the academic literature was searched using the two biggest databases, Scopus and Web of Science. Although these two databases together cover a significant majority of international peer-reviewed journals, other, more specialized databases might cover other potentially relevant journals. In addition, new journals are often not (yet) covered by either Scopus or Web of Science. It also means that the body of literature is dominated by publications from the Western hemisphere, whereas publications from other parts of the world, such as India, Brazil, and China, are relatively under-represented. Finally, both food security and governance are labels that have become particularly popular in recent decades,

whereas the combination of the two has only emerged in recent years, as shown in the next section. Many issues and domains that touch upon food security have been studied for a much longer time, and these research lines hold potentially highly relevant insights with respect to food security governance. In other words, there has been governance of food security for a much longer time than the notion itself has been used. The scope of this article was restricted to studies and articles that focus explicitly on the notion of governance in combination with food security, and not agriculture, rural development, or other related issues. In future research or reviews, this review could be complemented with insights from these specific domains or disciplines. Some studies, books and chapters that were not included in this review because of one or more of the limitations mentioned, and that could be particularly relevant additions to this review's synthesis are an edited volume by Barrett (2013) on food security in relation to sociopolitical stability, a chapter by Schilpzand et al. (2010) on the role of private sector involvement and a book by Barrett and Maxwell (2005) on governance issues in food aid

A description of the data

Characteristics of the body of literature

The food security governance literature can be categorized along various characteristics. This section presents a 'map' of the body of literature included (see: Gough et al. 2012).

The ISI Web of Knowledge *Journal Citations Report* indicates that the various journals in which the 33 included academic articles were published cover a broad range of disciplines within both the natural and the social sciences. Among these fields⁵ are International Relations ($n=5$), Food Science & Technology ($n=4$), Sociology ($n=4$), and Economics ($n=3$). Of all the journals that included articles on food security governance, only one journal had more than two articles (*Food Security*, $n=3$), which, together with the journal categories, indicates the spread of academic attention across various disciplines and communities.

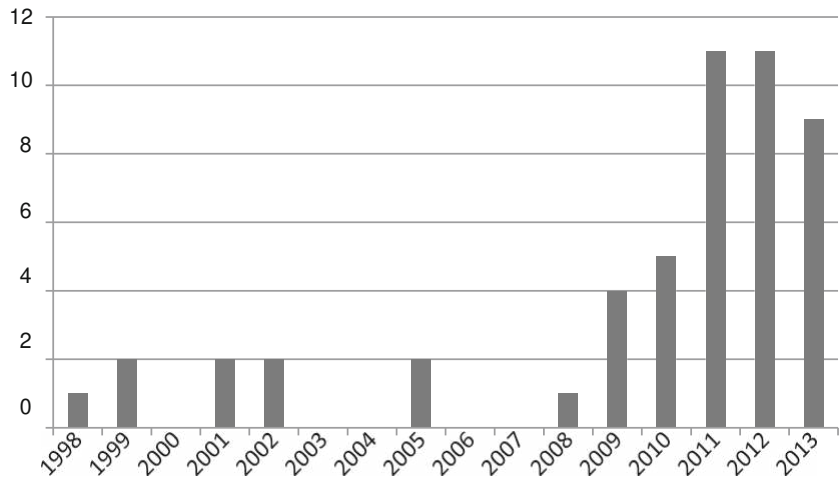
Regarding the years in which the documents were published, an upward trend can be seen from 2009 onwards (Fig. 2). Whereas none of the years before 2009 includes three or more documents, this increases to five and four in 2009 and 2010, respectively, and ten, twelve, and nine in 2011, 2012, and 2013,⁶ respectively. This observation confirms the notion

⁵Based on journal subject categories in *Journal Citations Report*. Only

ISI-indexed journals were included in this analysis. Ten articles were not published in an ISI-indexed journal. If journals were ascribed to multiple categories, all categories were included.

⁶Up to the time of data collection, see ESM I.

Fig. 2 Number of publications concerning food security governance per year



that the recent food crises formed the impetus for an increase in research on food security in general (Rockson et al. 2013). Figure 3 shows that a large proportion of the included documents focus on the global governance level. The concept of food security governance seems most integrated in the discourse of, and research on, global organizations, such as FAO, the Committee on World Food Security (CFS), and the G20. Nevertheless, more than a fifth dealt with national food security governance. Countries covered range from developed countries like Canada and Japan, to developing countries such as South Africa, Malawi, the Philippines, and Brazil. Only a relatively small proportion of the literature covered governance of food security at sub-national levels.

Finally, the data extraction table indicates that 69% ($n=29$) of the 42 academic publications did not collect data, or did not justify the methods used. Those that did mention the methods most often used interviews ($n=8$) or documents analysis ($n=6$).

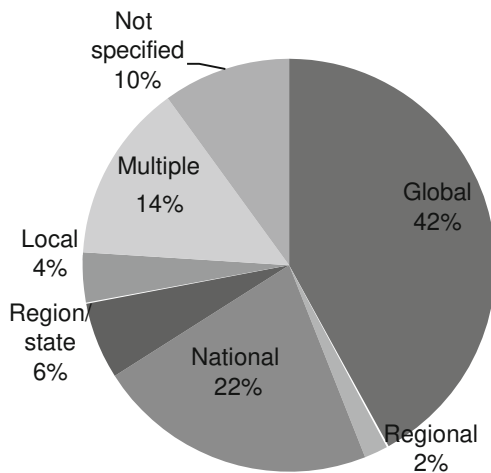


Fig. 3 Governance levels on which documents focused

Food security governance conceptualizations in the literature

Of the 50 included documents, 8 provided a conceptualization of food security governance, or mentioned what food security governance comprises (Table 1). The remainder of the articles and documents either discussed food security governance without explicitly defining the notion, or did not have food security governance as their core focus but provided some insights on the margins.

Table 1 Food security governance conceptualizations

1. "a mechanism that will facilitate debate, convergence of views and coordination of actions to improve food security at global but also at regional and national levels." (FAO 2009: 1)
2. "the exercise of power within institutional contexts, particularly crafted to direct, control, and regulate activities concerned with food security whereby these institutions are viewed by citizens as legitimate, accountable, and transparent." (Mohamed Salih 2009: 501)
3. "Good governance for food and nutrition security is fundamentally about national governments prioritizing policies, plans, programs and funding to tackle hunger, malnutrition and food insecurity in the most vulnerable populations, whether it be through humanitarian or development assistance, nationally, bilaterally or multilaterally." (High-Level Task Force on the Global Food Security Crisis 2010: 3)
4. "relates to formal and informal rules and processes through which interests are articulated, and decisions relevant to food security in a country are made, implemented and enforced on behalf of members of a society." (FAO 2011a: 17), also used in (Pérez-Escamilla 2012; Colonelli and Simon 2013)
5. "governance for food and nutrition security relates to formal and informal rules and processes through which public and private actors articulate their interests, and decisions for achieving food and nutrition security (at local, national and global level) are made, implemented and sustained." (FAO 2011b)
6. "there are over a dozen international institutions active in the field of food security. Working alongside these institutions are numerous regional, non-governmental and private organizations. This decentralized patchwork of institutions constitutes what may be best described as global food security governance." (Margulis 2012: 231)

As Table 2 shows, the six conceptualizations differ considerably regarding the elements of food security governance that they underline or deem crucial. Also, various nomenclatures are used, such as ‘food security governance,’ ‘governance of food security,’ and ‘good governance for food security’ (FAO 2011a).

A recurring element in most definitions is ‘steering,’ which refers to the exercise of power through the design and enforcement of interventions aimed at improving food security conditions. Although this can be done by both public and private actors, most conceptualizations are relatively government-centered.

Apart from steering, elements that are mentioned repeatedly are ‘deliberation,’ ‘formal and informal,’ ‘democratic values,’ ‘institutions,’ ‘multi-levelness,’ and ‘nutrition.’ Deliberation is particularly pervasive in the three FAO definitions, which all emphasize the articulation of views and/or ideas. This could be due to FAO’s closeness to the CFS, which primarily aims to stimulate and facilitate deliberation. The formal–informal nexus suggests that these deliberations do not necessarily take place in formal institutional settings, but that both exchanges of ideas and steering can also occur through informal processes and institutions.

In two of the conceptualizations of food security governance, the authors find it essential that these steering and/or deliberative activities are grounded in societal support and respect democratic values, such as legitimacy, accountability, and transparency. Two other conceptualizations underline the importance of nutrition, which can be traced back to wider support within the food security academic community to include the nutritional dimension in measures of food insecurity.

Two final elements of food security governance mentioned more than once were ‘institutions’ and ‘multi-levelness.’

Regarding the first, a good example is Margulis’ equation of food security governance with the global constellation of institutions and organizations. This description differs from the five others in the sense that it does not mention the role of agency or interactions. Regarding the element of multi-levelness, it is not self-evident whether this refers to multiple levels of governance, or to merely aiming to have an impact on multiple levels of food security. These conceptualizations do seem to imply, however, that food security is an issue that spans spatial and jurisdictional scales.

Finally, three elements mentioned only in a single conceptualization were ‘coordination,’ ‘convergence,’ and ‘public and private.’ However, as can be seen in the following section, these are all themes that recur frequently throughout the literature.

Food security governance is thus conceptualized in various ways, whereby each description highlights different elements. Moreover, rather than reflecting a current regime, most conceptualizations sketch an ideal state of (good) food security governance.

Synthesis of the literature

The synthesis presented in this section is divided along seven interrelated key themes that recur throughout the literature. For each theme, the central insights and arguments are presented. These insights and arguments are reported as they are raised in the literature and do not necessarily reflect the viewpoint of the researcher. It is important to note that the boundaries between these seven themes are relative, and consequently there is some substantive overlap between themes. The synthesis starts with the broad views of governance as both a challenge and a potential solution to food security. Themes 2 through 5 show that the potential positive contributions that governance arrangements can make to food security

Table 2 Elements of the various conceptualizations

Definition elements	FAO 2009	Mohamed Salih 2009	High-Level Task Force 2010	FAO 2011a	FAO 2011b	Margulis 2012
	Global governance of food security	Governance of food security	Good governance for food security	Food security governance	Governance for food and nutrition security	Global food security governance
Coordination	X	-	-	-	-	-
Convergence	X	-	-	-	-	-
Deliberation	X	-	-	X	X	-
Democratic values	-	X	-	X	-	-
Formal and informal	-	-	-	X	X	-
Institutions	-	X	-	-	-	X
Multi-level	X	- (no specific level)	- (national)	- (national)	X	- (global)
Nutrition	-	-	X	-	X	-
Public and private	-	-	-	-	X	-
Steering	-	X	X	X	X	-

are argued to be complicated by the high degrees of complexity that characterize the issue (theme 2), failures of current institutional architectures to address this complexity (theme 3), and the arrival of new types of actors in food security governance (theme 4), but could arguably be stimulated by a stronger focus on coherency and coordination across scales (theme 5). However, apart from complexity, the literature shows that food security governance involves various, sometimes conflicting, ideas about the way (s) in which to address food insecurity, as is set out under theme 6. Theme 7 adds two more factors that should be taken into account according to the literature: resources and democratic values.

Theme 1: the view of governance as both a challenge and a solution to food security

Throughout the literature, governance is considered as both a potential driver of, and a potential solution to, situations of food insecurity. Regarding the former, Boyd and Wang (2011) clearly show that, in some situations, poor governance, rather than natural conditions, constitutes the main driver of food insecurity. Conflict, lack of institutional capacity, poor policy design, and lagging implementation can inflict serious harm to the production and distribution of healthy food. Boyd and Wang, in this respect, refer to Peter Bauer's earlier example of North and South Korea, which have similar natural conditions but big differences regarding their levels of food security, which can be traced back to differences in the quality of governance. Note that, in this example, poor governance does not necessarily refer explicitly to governance of food security, but rather to a country's governance system in general. Other authors stress that, even when poor governance is not the main cause of food insecurity, it can be a significant contributory factor when it fails to effectively address natural, economic, or social drivers of conjectural or structural hunger (Sahley et al. 2005; Committee on World Food Security 2012; Pereira and Ruysenaar 2012). For example, in a food security assessment of Malawi, Sahley et al. (2005) argue that the limited capacity of the Malawian government to implement its own policies and programs formed a significant constraint to tackling the country's development challenges. Likewise, Pereira and Ruysenaar (2012) contend that governments often fail to respond to crises because of poor decision-making, limited coordination, weak institutions, and scarce resources. At the same time, it is underlined throughout the literature that, whereas

bad governance often has a significant negative impact on food security, the opposite is true for good governance. Although often overlooked, well-developed governance arrangements that are able to respond effectively to both crisis situations and structural concerns are key to eradicating hunger (High-Level Task Force on the Global Food Security Crisis 2010; L. Haddad 2011; Galiè 2013). Pereira and Ruysenaar (2012), for example, show how the extension of South-African business' 'good corporate governance' principles to the inclusion of stakeholders in decision-making has resulted in an improved ability to respond to changes in the food system. Similarly, Haddad (2011) argues that the creation of a new social policy program and a ministry, which has been tasked with coordinating the work of other ministries toward a number of food security goals, has had a significant positive impact on Brazil's food and nutrition security.

Theme 2: a governability that is characterized by high degrees of complexity

Although the importance of food security governance is increasingly acknowledged, the literature indicates that food security is not an issue that lends itself to being 'governed' easily. It is recognized that food security is a highly complex and multi-dimensional issue that is impacted by a broad range of drivers and food system activities, stretches across various scales, and involves multiple sectors and policy domains (Makhura 1998; Maluf 1998; Drimie and Ruysenaar 2010; Behnassi and Yaya 2011; Margulis 2011, 2013; Marzedamlynska 2011; McKeon 2011; Duncan and Barling 2012; Pereira and Ruysenaar 2012; Colonelli and Simon 2013). Regarding the last point, food security is not so much approached as a domain in itself, but, rather, as an issue affected by a wide array of domains, such as agriculture, trade, fisheries, environment, development cooperation, and energy, as a result of which many actors and institutions are involved in food security governance (Mohamed Salih 2009). Consequently, it is difficult to identify the main drivers of food insecurity, the more so because there is a distinction between structural food insecurity and associated drivers, and conjectural food insecurity, such as hunger related to sudden food price spikes (High-Level Task Force on the Global Food Security Crisis 2010; Clapp and Murphy 2013). Margulis (2013) argues that

there is, nevertheless, increased awareness of the structural factors that play a role. The body of literature shows that food security governance is spread not only across domains and sectors, but also across spatial scales. States of, as well as challenges to, food security can be considered on a global, regional, or national level, but have also been increasingly studied and addressed at local, community, household, or individual levels over the last decades. Whereas Robert Paarlberg (2002) argues that the main drivers and solutions should primarily be sought at national level, recent food crises have shown that ongoing globalization and the associated entanglement of world food systems have led to a situation whereby food insecurity drivers increasingly lie outside the scope of national governance (McKeon 2011).

Theme 3: failures of the current institutional architectures

Addressing an issue as complex as food security thus requires a sophisticated governance system. Nevertheless, the majority of the reviewed literature is highly critical of the current institutional architecture and practices of food security governance and offers recommendations for a more effective and/or democratic future governance system. Most of this critique is focused on the global level of food security governance (e.g., Global Forum on Food Security and Nutrition 2011; Margulis 2011; McKeon 2011; Colonelli and Simon 2013). However, to a large extent this can be attributed to the lack of national and sub-national governance arrangements and associated studies, especially in developing countries (Thomson 2001). The main critique of the global governance of food security is that there is no truly authoritative and encompassing body or institution with a mandate to address food security concerns across sectors and levels (Amalric 2001; von Braun 2009; Behnassi and Yaya 2011; Margulis 2011; McKeon 2011; Colonelli and Simon 2013). Instead, responsibilities, jurisdictions, and foci are spread across a broad range of international organizations and forums, which all have their own core business, but none of which deals with food insecurity in a holistic and inclusive manner (Global Forum on Food Security and Nutrition 2011; Committee on World Food Security 2012). Margulis (2013) and Orsini et al. (2013) have termed this the shift from an international food security regime towards a regime

complex for food security, in which food security is affected by a wide array of governance regimes that are all constituted by distinct sets of actors, forums, discourses, interests, and so forth. As a result, there is a considerable overlap of mandates and actions, in the best scenario resulting in duplicate actions, but in the worst in conflict between interests, visions, and paradigms (Margulis 2011, 2012, 2013; McKeon 2013). Moreover, as the CFS (2012) argues, this fragmented effort has resulted in a large number of projects that lack the scale to make a real difference. This vacuum of global governance has therefore led to a general inadequacy in tackling effectively both structural hunger and sudden food crises (McKeon 2011). Many authors see a potentially important role for the recently reformed Committee on World Food Security in filling this vacuum, but state at the same time that the CFS still needs to prove its effectiveness (FAO 2010; High-Level Task Force on the Global Food Security Crisis 2010; Global Forum on Food Security and Nutrition 2011; FAO 2012; Clapp and Murphy 2013). In addition to the occurrence of conflict between international bodies, the literature also gives examples of how these bodies affect one another through their norm-setting tasks, the creation of rules, and diffusion of paradigms. This effect is reinforced by the participation of actors in several of these bodies at the same time, all of which attempt to pursue their interests through various channels (González 2010). Clapp and Murphy (2013), for example, argue that the G20's unwillingness to address the root causes of price volatility has had a chilling effect on the discussions taking place in other organizations, such as the CFS. For this reason, and because of an arguable lack of legitimacy of the G20, they plead for the G20's withdrawal from food security governance and for other organizations to take back the helm. Although a large proportion of documents focus on the global level, some of the literature describes similar dynamics in national or local governance. Sahley et al. (2005), for example, observe that policy formation in Malawi was ad hoc and resulted in a plethora of policies and programs that were sometimes disconnected and contradicted one another, and were spread across central government agencies. Similarly, Drimie and Ruysenaar (2010) argue that the South African Integrated Food Security Strategy (IFSS) was poorly executed and had too strong an emphasis on agriculture. There was a

lack of coordination between departments, sub-programs were weakly integrated, and supportive legislation was lagging behind.

Theme 4: the arrival of new players at the forefront

Part of the complexity and the difficulties with the design of institutional structures stems from an increase in the number of actors involved in food security approaches, or that have a direct or indirect impact on food security (Koc et al. 2008; von Braun 2009; Behnassi and Yaya 2011; McKeon 2011; Duncan and Barling 2012; Edwards 2012; Margulis 2012; Pereira and Ruysenaar 2012; Seed et al. 2013). This increase in stakeholders can be reduced to three types in particular: international organizations, civil society organizations (CSOs), and private sector corporations. These actors are active on all governance levels and within international organizations or government agencies, whereby they often 'shop' between forums or venues, depending on where they perceive their interests to be best represented (McKeon 2011; Duncan and Barling 2012). The increase in international bodies, in particular, followed the 2007-2008 world food crisis. After the crisis, the CFS was thoroughly reformed, the UN installed a High-Level Task Force, the World Bank renewed its focus on agriculture and food security, and the G8/G20 became increasingly involved (Jarosz 2009, 2011; Margulis 2012; Clapp and Murphy 2013). However, as the above section on the global institutional architecture has made clear, this increase in organizations has not been without criticism. Civil society participation has not only increased in recent years, but is also considered crucial for effectively addressing food insecurity on all levels (Makhura 1998; Thomson 2001; FAO 2009; Jarosz 2009; Rocha and Lessa 2009; von Braun 2009; High-Level Task Force on the Global Food Security Crisis 2010; Global Forum on Food Security and Nutrition 2011; Margulis 2012; Seed et al. 2013). The literature indicates a broad range of advantages that CSOs could provide to more traditional government-centered approaches. First, civil society can provide the policy-making process with valuable information. Local, bottom-up knowledge creation may contribute to identifying food insecurity problems and response gaps of which policy-makers are often unaware (Koc et al. 2008; Bastian and Coveney 2012; Brownhill and Hickey 2012; Seed et al. 2013). Second, CSO participation brings food

security governance closer to those who are hungry. It therefore enhances the legitimacy of, and public support for, food security interventions, which, together with the resources that CSOs can bring in, stimulate effective implementation (Koc et al. 2008; Behnassi and Yaya 2011; Edwards 2012). Third, CSOs can form bridges between government agencies that did not previously cooperate, or between various governance levels (global - national, national - local, global - local), and thus contribute to a multi-sector and multi-scalar approach (McKeon 2011; Edwards 2012). Fourth, CSOs frequently operate as co-workers of government agencies and can offer the capacity that government often lacks (Seed et al. 2013). In spite of these potential advantages and a handful of best practices, the inclusion of CSOs in food security governance is not self-evident. Both Seed et al. (2013) and Koc et al. (2008) show that these forms of collaborative governance call for appropriate structures, capacity, and political will, which are not always at hand. In addition, involving civil society actors entails a shift in bureaucratic philosophies, and this requires time and continuous effort. Moreover, some actors may benefit from the exclusion of others, because it enables them to satisfy their own agendas. The inclusion and exclusion of actors influences the structures and mechanisms of food security governance as well as the substance of decisions made, and is therefore important to take into account when setting up or evaluating arrangements (Duncan and Barling 2012). A third group of actors who are increasingly involved in food security governance are private corporations and related associations. Compared to CSOs, this group has received relatively limited attention. This is partly because, although private corporations do participate in global forums and organizations, most of their activities and impacts remain relatively hidden. This has led to critiques about the lack of regulation and democratic control of private sector interests (Behnassi and Yaya 2011; McKeon 2011), but others have argued that this new reality should be accepted and that these players should be further embedded in food security governance (von Braun 2009).

Theme 5: calls for coherency and coordination across multiple scales

To overcome the identified problems of fragmentation, overlap, conflict, increasing numbers and types of stakeholders, and ineffectiveness that

characterize current food security governance, the literature almost unanimously calls for an enhanced institutional capacity that could contribute to realizing higher degrees of coherence and coordination. A central argument is that addressing the complex food insecurity drivers requires policies and programs that mutually reinforce one another, thereby contributing to shared goals and outcomes. The individual actions of (international) organizations, countries, donors, corporations, and other private actors can address various drivers and aspects of food insecurity but would, together, have to result in a coherent and holistic approach, whereby trade-offs and duplicated efforts are minimized and one actor's course of action does not impair that of others. This calls for high degrees of coordination, both between the currently fragmented institutions and between governance levels, and integration of food security concerns into other policy domains or sectors (Maluf 1998; MacRae 1999; FAO 2009, 2012; Drimie and Ruysenaar 2010; High-Level Task Force on the Global Food Security Crisis 2010; Margulis 2011, 2013; McKeon 2011; Clapp and Murphy 2013; Rola 2013; Seed et al. 2013). This would imply that, on each governance level, regimes, sectors, policy domains, and associated actors and institutions would have to be brought into line; but this can only be realized by active coordination on the one hand, and the inclusion of multiple public and private actors and decentralized initiatives on the other (Edralin and Collado 2005; FAO 2009; Drimie and Ruysenaar 2010; High-Level Task Force on the Global Food Security Crisis 2010; Behnassi and Yaya 2011; Marzeda-Mlynarska 2011; Committee on World Food Security 2012; Lang and Barling 2012). At the same time, it is argued that coordination between governance levels would have to be stimulated, so that drivers of food insecurity are addressed at the appropriate level, thereby complying with the principle of subsidiarity (Global Forum on Food Security and Nutrition 2011; McKeon 2011). According to Misselhorn et al. (2012), 'boundary organizations' can play an important role in this respect. As the term indicates, these organizations operate on the boundaries between sectors or governance levels and thus have the potential to stimulate coordination. Regional organizations, such as the European Union or ASEAN, or their divisions, provide promising opportunities in this regard (FAO 2011b). These last examples point to the

issue of institutional capacity, which is deemed essential to organize sustained coordination (Thomson 2001; L. Haddad 2011; Margulis 2011). As the example of Malawi shows, a lack of institutional capacity can lead to lagging implementation, and it may also hamper the quality of policy formation and integration with multiple policy sectors and governance levels (Sahley et al. 2005). Moreover, it is not only the capacity itself that matters, but also where this capacity is situated institutionally. Drimie and Ruysenaar (2010) show that, although there was a certain amount of capacity to implement the South African IFSS, this capacity was mainly positioned at the Department of Agriculture, and this led to a neglect of non-agricultural issues and actors related to food security. For that reason, the researchers plead for a concerted effort by departments and other actors to harness available expertise and to initiate and coordinate food security efforts across sectors. Here, the importance of boundary organizations, such as interdepartmental committees, becomes clear again. Various authors have either shown the effectiveness of these kinds of organizations, or plead for their creation (Maluf 1998; FAO 2011b; Misselhorn et al. 2012). Both Misselhorn et al. (2012) and Pereira and Ruysenaar (2012) argue that creating such capacity demands a different governance perspective, in which states shift from a predominantly mono-centric governance perspective to governance arrangements that stimulate and facilitate interactions across multiple levels and scales.

Theme 6: variation and conflict of ideas

An issue identified in the literature as a major challenge to institutions' coordinative efforts is the plurality of ideas around food security in general, and food security governance more specifically (Jarosz 2009; González 2010; Margulis 2011, 2013; McKeon 2011; Lang and Barling 2012; Seed et al. 2013). This multitude of ideas comes on top of the varying formal definitions, which are set out in section 3.2, and is a result of the variety of sectors, countries, governance levels, and associated actors and interests that are involved in, or have an impact on, food security governance. *Idea*, here, is an umbrella concept for ideational concepts used in the literature on food security governance, such as discourse, paradigms, norms, governmentality, or philosophies. Some ideas are deeply embedded

in the culture or administrative philosophy of organizations, countries, or other actors. Barclay and Epstein (2013), for example, explain how Japan's approach towards food security is firmly grounded in ways of thinking about the protection of national culture and social and environmental responsibility. This governmentality led the Japanese government to support both free trade and protectionist policies at the same time. Similarly, Edwards (2012) empirically showed that collaborative governance had become deeply institutionalized in the administrative philosophy of various U.S. state agencies. Edwards' results form an interesting contrast to Seed et al. (2013), who reveal that bureaucratic cultures in state agencies in British Columbia were strongly dominated by ideas of top-down policy-making. A third example is provided by M. Haddad (2012), who by analyzing the Quran shows that Islam champions a state-centered perspective on food security. Lang and Barling (2012) show that, on an aggregate level, these perspectives or modes of thinking may result in encompassing discourses or paradigms that can have a significant impact on how food security is approached, on the distribution of power and resources, and on which governance or policy options are considered. Often, various discourses or paradigms exist at the same time and compete for domination; this leads to conflicts between their proponents about the courses of action to follow and about who is to decide (Lang and Barling 2012). These conflicts in food security governance become most visible in the work of Matias Margulis (2011, 2013), whose central argument is that diverging rules and norms (paradigms) across the global regimes of agriculture and food, international trade, and human rights concerning the appropriate role of states and markets in tackling food insecurity cause conflict and have a detrimental effect on policy coherency. Before global food security governance became a regime complex, assumptions and principles were more shared within the food security regime (Coleman and Gabler 2002; Margulis 2013). Similar ideational conflicts can also occur within organizations. Both González (2010) and Jarosz (2009) argue that the FAO is subject to conflicting discourses. According to Jarosz, the FAO's ineffectiveness can, to a large extent, be traced back to a conflict between a discourse that centers on free trade and productivity, and one that is more concerned with shared moral

responsibility and human rights. Stakeholders in these organizations play active roles in protracting these conflicts by actively framing food security (governance) according to their views and interests (McKeon 2011; Barclay and Epstein 2013; Clapp and Murphy 2013). How are these ideational conflicts to be resolved? The literature provides no silver bullet solutions in this respect, but both Margulis (2013) and McKeon (2011) argue that a first step would be to increase awareness and understanding of the multitude of ideas, and to agree on some basic principles and values.

Theme 7: calls for the allocation of sufficient resources and the integration of democratic values in food security governance

As repeatedly stated in the above sections, most of the literature focuses primarily on what food security governance should ideally look like, thus on what *good* food security governance entails. The previous themes have already shown that coherency, coordination, and dealing with ideational pluralism and a broad range of actors are widely considered to be crucial elements of a good governance approach. Here, two more criteria that are repeatedly mentioned in the literature are added: resources and democratic values. Various types of resources that are essential to create and maintain responsive and effective governance arrangements are underlined in the literature. Many of these articles share the concern that governance arrangements have often failed to effectively address hunger because most energy was expended on shaping their architectural features without sufficiently thinking out the sustainable resource allocation that these institutional architectures need to be effective in the long term. A first type of resource required is finance, i.e., a sufficient budget (FAO 2009). Edralin and Collado (2005), for example, argue that, although decision-making authority was decentralized in the Philippines, the effectiveness of these measures was hampered by a lagging decentralization of financial resources. A second crucial resource is political will, leadership, and prioritization (Makhura 1998; Sahley et al. 2005; High-Level Task Force on the Global Food Security Crisis 2010; Global Forum on Food Security and Nutrition 2011; L. Haddad 2011; Committee on World Food

Security 2012). The success of an approach often relies on the sustained efforts of one or more actors. Of particular concern in this regard are political shifts, such as changes of office. Such shifts can lead to a discontinuation of political efforts (Rocha and Lessa 2009). A third resource often mentioned is knowledge. Knowledge can come, *inter alia*, from stakeholders who are active on the ground, from the experience and expertise of policy-makers, or from research institutes in the form of scientific evidence (Koc et al. 2008; FAO 2009; Rocha and Lessa 2009; Behnassi and Yaya 2011; Global Forum on Food Security and Nutrition 2011). Besides resources, other elements that are generally considered essential for good food security governance are good governance and democratic values. Good governance, here, does not necessarily refer to effective governance. It is indeed conceivable that governance arrangements are effective in addressing food insecurity without fulfilling particular democratic values. Values repeatedly mentioned are accountability, transparency, legitimacy, inclusiveness, and responsiveness (Mohamed Salih 2009; Rocha and Lessa 2009; Global Forum on Food Security and Nutrition 2011; L. Haddad 2011; McKeon 2011; FAO 2011a; Pérez-Escamilla 2012). These values are applicable not only during policy formulation, but throughout all governance processes, including implementation and evaluation (FAO 2011a). Regarding this last point, an important issue is how to measure the effectiveness of interventions and how to determine an intervention's success (Pérez-Escamilla 2012). Apart from these values, good food security governance relies on a general supportive environment in which human rights are respected and in which the provision of basic public goods is guaranteed (Paarlberg 2002; Global Forum on Food Security and Nutrition 2011; FAO 2011a).

Discussion

The synthesis presented in the previous section has shown that the emerging literature on the governance of food security has already provided some highly relevant, albeit non-cohesive, insights and recommendations. Nevertheless, as a research field, food security governance is still in its infancy and many

questions and challenges remain unanswered and unaddressed. In this section, the synthesis is critically reflected upon. Two lines of discussion are raised: the first concerns the dominant governance perspective in the literature, the second, the current state of the research field.

Dominant perspective: governance as problem-solving

Governance has become a popular and much supported notion in food security communities. This is well reflected by the rather recent emergence of the body of literature synthesized in the previous section. What is striking is that, although different parts of the literature have different emphases, the perspective on governance that emerges seems relatively consonant. In the governance literature, this perspective has been termed an 'optimist philosophy on governance' or a 'problem-solving governance lens' (Bovens and 't Hart, 1996; Biesbroek et al. 2013b). This perspective is particularly clear in the third and fourth themes of the synthesis. From this perspective, food security is recognized as a highly complex issue that cannot be dealt with effectively by the current fragmented institutional architecture. Therefore, the governance system should be made more coherent, better integrated and coordinated, and more inclusive. The general underlying argumentation is that, if governance regimes were further integrated on multiple scales, more knowledge and information would be acquired and shared; and if all relevant stakeholders were able to engage in collective rational deliberations, it would ultimately be possible to overcome the complexity of food security and to develop a holistic approach that would enable food insecurity to be addressed in the most effective way. Governance is thus approached as a concerted effort to solve (complex) societal problems (Bovens and 't Hart, P. 1996). A clear exponent of this line of reasoning is the recently reformed Committee on World Food Security, which now portrays itself as "the most inclusive international and intergovernmental platform for all stakeholders to work together in a coordinated way to ensure food security and nutrition for all" (Committee on World Food Security 2013). However, as some included authors – particularly under the fifth theme – made clear, inclusion of actors and coordination are not always sufficient to overcome conflicting ideas and interests, and do not necessarily lead to an effective food security approach.

Therefore, notwithstanding the merits of the optimist governance philosophy for understanding and designing food security governance arrangements, the dominance of this perspective has led to a rather narrow, normative, and

simplistic view of governance within a large proportion of the food security community, and particularly in the included publications of global organizations. This is so for at least two reasons. First, both Bovens and 't Hart (1996) and Biesbroek et al. (2013b) have shown that, apart

from the optimist philosophy, at least two other governance perspectives can be applied, termed by Bovens and 't Hart as the 'realist' and the 'pessimist' philosophies. Whereas the optimist philosophy approaches governance as problem solving, the realist philosophy centers on a view of governance as the whole of interactions between actors in a particular institutional context through which they identify and address problems. These interactions may be characterized by various degrees of conflicts of interest, ideational struggles, and institutional deadlocks, as studies in the fields of public administration and policy studies have extensively shown (e.g., March and Olsen 1989; Schön and Rein 1994; Stone 2012). In the pessimist philosophy, governance is approached as a complex system in which societal problems are interrelated and nested in a 'locked-in' society, in which power plays between actors take place (Biesbroek et al. 2013b). Although it is beyond the scope of this article to elaborate much further on the differences between these philosophies, it goes without saying that the perspective through which governance arrangements are studied has important implications for the dynamics that are considered vital as well as for consequential policy recommendations. The perspective through which governance is studied influences not only the answers or solutions proposed, but also the very research questions and problem definitions that are considered essential (cf. Allison and Zelikow 1999; Biesbroek et al. 2013b). As a consequence, the dominance of the optimist philosophy in a large proportion of the food security governance literature may lead to a process of theory development that overlooks dynamics that might have been considered crucial if a different perspective had been applied. As a result, policy recommendations that stem from the body of literature might result in interventions that are not necessarily effective. Therefore, a diversity of perspectives and comparisons of understandings may have a healthy impact both on acquiring a better theoretical understanding of food security governance and on plans and practices deriving from this knowledge. The recent attention paid by some food security governance scholars included in this review to interactions between actors and institutions, power plays, ideational struggles, and to notions of adaptive and collaborative governance, is a promising development in this respect (e.g., Misselhorn et al. 2012; Pereira and Ruysenaar 2012; Margulis 2013).

A second reason why a broader governance perspective might contribute to a better understanding of food security governance is closely related to the first and concerns the very nature of food security. A large majority of the literature, especially that part which adheres to the optimist philosophy, approaches food (in)security as a complex problem. This complexity originates from the

interplay of technical, environmental, economic, and social drivers across various scales. As elaborated above, a core assumption is that, although difficult, this complexity can ultimately be overcome by designing and implementing 'smart' governance arrangements. This idea of solubility is severely challenged by a concept that builds further on complexity theory, i.e., that of wicked problems, which has been repeatedly applied to food security (Hamann et al. 2011; Anthony 2012; MacMillan and Dowler 2012; Termeer et al. 2013a). Wicked problems are policy problems that are not only complex, but also ill-defined, ambiguous, contested, and highly resistant to solutions (Rittel and Webber 1973; Head and Alford 2013; Termeer et al. 2013a). This resistance to solutions results from the dynamic that "today's problems emerge as a result of trying to understand and solve yesterday's problems" (Termeer et al. 2013a: 2). Wicked problems therefore require a different governance perspective from that propagated by the problem-solving lens. The literature on the governance of comparable wicked problems may prove a valuable source from which to obtain a better understanding, for instance, of climate change adaptation (e.g., Huitema et al. 2008; Stripple et al. 2009; Biesbroek et al. 2013b; Termeer et al. 2013b; Vink et al. 2013). One of the insights from this community, for example, is that fragmentation is not necessarily a negative condition in the attempt to govern wicked issues. Fragmented networks may be better able to provide capacity, to adapt to unexpected circumstances, and to create space for variability and learning than mono-centric governance systems (Termeer et al. 2011). In this review, Pereira and Ruysenaar (2012) and Misselhorn et al. (2012) make similar arguments with respect to food security. The challenge, then, is to organize the fragmented governance system in such a way that it works collectively towards a shared goal. Termeer et al. (2011) have identified three challenges with respect to the wicked issue of climate change adaptation: i) to organize connectivity between policy domains, scale levels, leadership, and the 'old' and the 'new,' ii) to (re) allocate responsibilities and costs and benefits, and iii) to deal with controversies, in particular frame conflicts and contested knowledge. More is to be said about how these challenges apply and could be addressed in food security governance, but they offer a refreshing alternative to the current dominant mono-centric problem-solving paradigm within the literature.

The current state of the research field

Although research on food security governance is rapidly developing, a number of issues still need to be addressed in the near future. Here, we highlight four such issues.

First, as section 3.2 has shown, it is not yet very clear what is actually meant by food security governance. Definitions vary and emphasize various elements of the notion. One could argue that the absence of a clear definition is not troublesome because it has not hampered the amount of research being done on food security governance so far, which has, on the contrary, been increasing in recent years. However, at the same time, the lack of clarity regarding what food security governance is – and what it is not – makes it hard to determine what constitutes the dependent variable, i.e., the indistinctness of the phenomenon that is being studied, i.e. food security governance research, and this complicates meaningful comparisons and theoretical advancement (cf. Dupuis and Biesbroek 2013). For that reason, a new definition, combining Termeer et al.'s broad definition of governance given in the introduction (Termeer et al. 2011) with the three core dimensions of food security and some main elements mentioned in previous definitions, is proposed:

The formal and informal interactions across scales between public and/or private entities ultimately aiming at the realization of food availability, food access, and food utilization, and their stability over time.

Second, in spite of the rising attention on food security governance, a majority of the reviewed publications were of a conceptual or normative nature. As section 3.1 has shown, it seems that not many empirical studies have been conducted,⁷ although it could be the case that some researchers did use empirical methods but did not explain them. Our knowledge of food security governance is thus to a large extent dependent on narratives. Although these narratives have contributed to the rise in attention on governance in food security approaches, this lack of empirical foundations is somewhat worrying. Not only does it hinder obtaining a sound academic understanding of the governance issues at hand, it also weakens the strength of recommendations made to policymakers and stakeholders involved in designing food security governance arrangements. Food security governance is therefore in need of further empirical investigation and theory testing as well as of the development of a conceptual framework or indicators to do so.

Third, a large proportion of the current literature focuses on what food security governance should ideally look like, instead of how the governance system is functioning at present. Food security governance is often used as a synonym for *good* food security governance, meeting particular effectiveness and democratic criteria. Notwithstanding the importance of good governance, more is to be told about current governance

(best) practices. In particular, more research should be done on sub-national governance levels and initiatives, and how these are linked to global initiatives, as these have been largely neglected in the literature so far. It is not clear whether this is due to a lack of sub-national governance initiatives or to a blind spot in the research being done.

A last point is that although 'food security governance' is a convenient heading and perspective under which to study the steering processes and interactions through which food (in)security is addressed, too rigid an approach should be avoided in future research. As indicated in the limitations section, whereas both food security and governance are powerful and widely shared notions, much can be learned from other research fields. This article should therefore be considered as a first attempt to provide an overview of the relatively recent body of literature on food security governance, aiming to serve as a stepping stone for further research in which insights from adjacent research fields could be integrated.

Conclusions

Although the importance of governance for effectively addressing food insecurity has increasingly been recognized, the knowledge about, and definitions of, food security governance have been rather fragmented up to now. The synthesis presented in this paper therefore aimed to provide a first state-of-the-art. A systematic review of the food security governance literature led to the identification of seven main themes that recur throughout the literature.

Nonetheless, food security governance is still very much virgin territory that offers a lot of potential for further research. In particular, the researcher pleads for the inclusion of alternative governance perspectives or paradigms in future research. Approaching food (in)security as a wicked problem could provide valuable insights in this respect. Additionally, there is a need for further empirical investigation of current governance arrangements, particularly at sub-national levels. Eventually, this line of research should contribute to the design of smart governance arrangements that are capable of addressing food insecurity in more effective ways than are possible at present.

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⁷ Nota bene: this refers to empirical studies on governance (arrangements) on a more meta-level, not on particular food security solutions, projects, or programs.

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