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Food governance for better access to sustainable diets: A review

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'Governance', understood as organizational governance, is essential to more sustainable food provisioning systems ensuring sustainable health, heritage, and natural environments. Governance enables regional and local perspectives to be aligned with commitments from national and international organizations. Within the wealth of scholarship on food systems governance, agricultural governance and agency is a rarely interrogated dimension, despite the clear impacts of agricultural decisions on health and environmental outcomes. In this paper we discuss the findings of a scoping review that focuses on the question "How can food governance transform food systems to ensure better access to sustainable diets?", meaning diet that protect health, cultures, and the natural environment. Our results show that it is first needed to determine the governance level and the expected outcomes. From a national perspective, policy coherence is described as a way in which different public institutions can add to the sustainable diets access goal. From a local perspective, community supported activities and the incorporation of local knowledge are also described as ways that can help achieving an improvement on sustainable diets access. Either from a regional or local perspective, commitment from organizations must be ensured for common objectives being aligned. Also, it is necessary to request more from the agricultural sector role in delivering nutritionally and environmentally appropriate food. Thus, the idea of governing agriculture as a health and environmental activity is an approach that should be considered when designing, implementing, and assessing food systems.

KEYWORDS

culture, food governance, food systems, agriculture, scoping review, sustainable diets

Introduction

Global food production represents an important pressure over the Earth's natural systems and is related to problems associated to food and nutrition insecurity (Willett et al., 2019). It is estimated that between 720 and 811 million people faced hunger in 2020, 118 million more than in 2019, while one in three people did not have access to adequate food during the same period (FAO, 2021). On the other hand, in 2016, 1.9 billion adults were overweight, and 650 millions of these were obese, while in 2020 and 39

million children under the age of 5 were overweight or obese (WHO, 2021). In addition, the number of people suffering from “hidden hunger” (insufficient intake of essential minerals and vitamins required in small amounts by the body for proper growth and development) was likely to be between 1 and 2 billion in 2021 (WHO, 2021). When these three conditions coexist in the same individual and/or community, we speak of the “triple burden of malnutrition”, which nowadays represents the most worrying issue related to food and nutrition security (Ingram, 2020).

Food security definitions have evolved over time. In 1996 the international community defined that “food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their daily energy needs and food preferences for an active and healthy life.” Nowadays, however, we see how increasingly the environmental—e.g., “planetary health” and “one health” approaches—socio-cultural, acceptability and agency—or the power of citizens to the define and secure their rights, in particular to food security—dimensions have become more relevant (Calistri et al., 2013; Lerner and Berg, 2015; Chappell, 2018). For example, approaches such as the “agency” dimension proposed by Rocha and the concept of “food sovereignty” have been proposed, among other things, to enhance social inclusion and participation on food systems design and management (Chappell, 2018), considering cultural and acceptance values around food production and consumption.

Related to the above, the “sustainable diets” approach arises as a holistic paradigm that considers context specific ecological concerns together with health and nutrient adequacy, as well as the affordability and socio-cultural acceptability of diets at the global, regional, local, and individual level (Garnett et al., 2014; Johnston et al., 2014). To provide sustainable diets that help reducing both food insecurity and the incidence of non-communicable diseases while strengthening the sustainable management of natural resources, is necessary to transform food systems (van Bers et al., 2019; Dupouy and Gurinovic, 2020). To achieve the aforementioned, Swinburn et al. (2019) and WHO (2020) propose a focus on three complementary areas: (1) strengthening local levers and engaging civil society into food systems transformations (2) acknowledging the diversity and complexity of food systems, with a particular scope in a nutrition-sensitive agricultural production; and (3) the inclusion of local—indigenous/traditional—approaches to health and wellbeing. Actions in these areas require a multilevel coordination and a multi-sectorial approach that can only occur if proper conditions exist (Lee et al., 2020; Delabre et al., 2021). In this sense, the concept of governance appears both as a process and a value that allows the socio-cultural environment for a proper functioning of food systems (Berry, 2019).

Based on the presumed relationship of both concepts (food governance and sustainable diets) to socio-cultural dimensions of food and agriculture, most of the literature is extensive in

exploring each of these concepts separately, paying less attention to elucidating whether and how they are related. Herein we review and discuss the evidence regarding what is known about the implications of food governance, its relation to sustainable diets, and recommendations for future research.

Methods

A scoping review was conducted from April 2021 to May 2021 to find evidence on our research question: “*How can food governance transform food systems to ensure better access to sustainable diets?*” The search included peer-review papers of both qualitative and quantitative research, and book chapters from any country between 1990 and 2021. We chose the timeframe 1990–2021 for this review was to find out whether the theoretical link between the two concepts (food governance and sustainable diets) corresponded to something widely studied or was relatively new.

The search strategy covered three databases: Ovid, ProQuest, and Web of Knowledge. Three groups of research terms were applied: governance, diets, and food systems. Key words relating to governance (e.g., governance, food governance, public policy, food policy, etc.), diets (e.g., local, healthy, indigenous, etc.), were combined with terms indicating transformation of the food system (food system transformations, inclusive food systems, resilient food systems, etc.). Terms were combined using Boolean AND/OR strategies (e.g., food policy OR food governance AND food system transformation OR resilient food system, etc.).

Initial search conducted by a single reviewer (MdV) using the aforementioned databases. Title and abstract screening were conducted independently by two reviewers (MdV) and (ASAVM) using the web-based software platform Covidence, an online review and data-extraction tool. Disagreements were resolved through further discussion between both researchers, analyzing case by case the reasons that led them to choose if each article would fit in the review according to the inclusion criteria. The final list of papers was discussed with a third reviewer (KS). In this case, and due to the expertise of KS in food governance, the set of studies selected was assessed according to its explicit focus on governance structures examples regardless its level (global, regional, local), and explicit mention of different sustainable diets dimensions, such as ecological concerns, health and nutrient adequacy, affordability, and cultural acceptability, among others.

Data extraction was conducted using an Excel matrix spreadsheet in which findings were organized according to the following categories discussed previously between MdV and KS, based on the type of information we wanted to obtain from the review. Finally, information of each category was compared to find commonalities and differences between the different selected papers.

Results

Selection process, research period and location

Thirty-seven studies were found that fulfilled all inclusion criteria. Full reference details for these studies are presented in Table 1. Figure 1 explains the entire review process, from the database import phase to the final inclusion assessment. First, 226 duplicates found by Covidence were eliminated, leaving 709 studies for screening titles and abstracts. Of these, 449 studies were considered irrelevant because they did not match the objective of the review. Subsequently, 223 studies out of the 260 remaining for “full-text assessment for eligibility” were excluded for different reasons, such as “wrong focus” (190), “not available” (19), “wrong type of document” (13) and “duplicate” (1). Covidence did not initially find the last duplicate. The list of excluded studies categorized according to exclusion criteria is separately provided in Supplementary Table 1. The selected papers cover the period 2013–2021, concentrated especially between 2018 and 2020 ($n = 25$; 68%), so studies linking the two concepts are relatively new. However, it should be noted that as the review was carried out between May and April 2021, studies published after the latter date were not considered for the selection process. Most selected papers belong to studies developed in Europe (33%) and to reviews and/or studies with no specific settings (32%), while in contexts commonly described as “low- and middle-income countries,” only a 11% of studies were found. All the studies were scientific papers.

can be vertical when different levels interact (global, regional, national, local, etc) and horizontal, where diverse stakeholders per level are involved (Allen et al., 2019; Hunter et al., 2016). Different levels and stakeholders involved implies interests and a strong presence of power and decision-making rules, availability and use of data, and economic incentives and disincentives, among others (Voß and Kemp, 2006; Lang and Barling, 2013; Zurek et al., 2018; Swinburn et al., 2019). Some authors also understand governance as a social value of sustainability, by making clear that the balance of power, decision-making, and access to information among the different actors in food systems is what allows people to govern their food according to their own values and principles (Lang, 2014; Béné et al., 2019).

Together with balancing power over food systems, the selected studies also describe that strong governance is needed for other purposes. For example, it helps to build a common vision, to support evidence-based policies, and to promote effective coordination and collaboration (Dupouy and Gurinovic, 2020). Other authors highlight how governance has ensured the right to food (Pott et al., 2016), strengthening local food systems and leading their transformations toward sustainability (Hawkes and Popkin, 2015; Kennedy et al., 2017; Blay-Palmer et al., 2018; Galli et al., 2020a; Delabre et al., 2021). At the same time, when governance is deficient, for example when existing policies are inconsistent or fragmented (Balázs et al., 2021), crises are more likely to occur and progress in achieving sustainable diets can be threatened, as well as the efforts to address climate change, stop biodiversity loss, and achieve better incomes for farmers and food system workers (De Schutter et al., 2020).

Processes of food governance

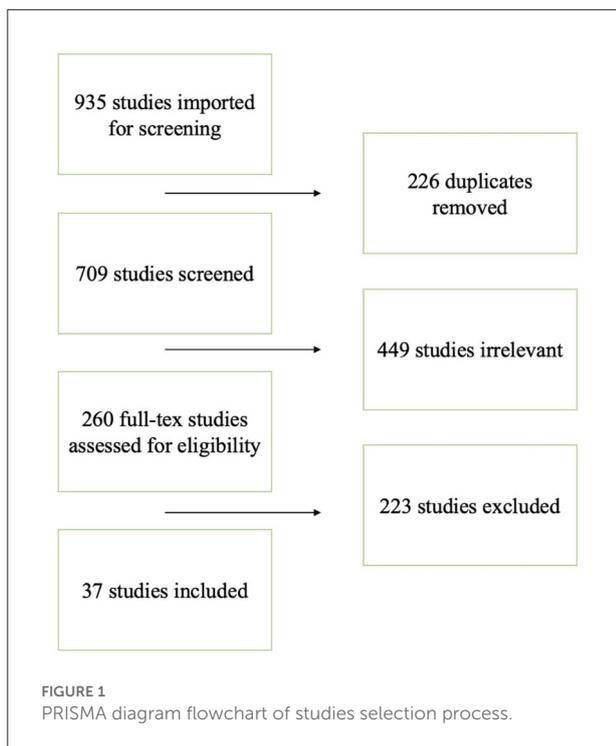
Food governance can be understood as the “architecture of food systems” (Berry, 2019) that allows formal and informal interactions between institutions and people to enable the environment in which food systems perform (Candel, 2014; Kennedy et al., 2017; Béné et al., 2019). These interactions

Food governance levels and focuses

From a global, regional, and national perspective, food governance is a requirement for food policies performance (Boylan et al., 2019) as they operate across many levels shaped by international, national, and regional agreements (Balázs et al., 2021). Food policy integration

TABLE 1 Sustainability dimensions of diets from selected studies.

Group	Category	Studies
1	Sustainability focused on the environmental dimension	Hawkes and Popkin, 2015; Hunter et al., 2016; Pott et al., 2016; Kennedy et al., 2017; Blay-Palmer et al., 2018; Zurek et al., 2018; Lawrence et al., 2019; Swinburn et al., 2019; De Schutter et al., 2020; Dupouy and Gurinovic, 2020; Détang-Dessendre et al., 2020; Galli et al., 2020a; Graça et al., 2018; Lee et al., 2020; Leip et al., 2021; Parker et al., 2021; Vermeulen et al., 2020; Balázs et al., 2021.
2	Environmental and sociocultural aspects	Lang, 2014; Mattioni and Caraher, 2018; Allen et al., 2019; Berry, 2019; Béné et al., 2019; Downs et al., 2017; Galli et al., 2020b; Hawkes, 2007; Calistri et al., 2013; Melesse et al., 2020; Delabre et al., 2021; Kennedy et al., 2021.
3	FAO definition	Lang and Barling, 2013; Lang and Mason, 2018; Lundqvist and Unver, 2018; Boylan et al., 2019, 2020.



and coherence are commonly described as a way in which actions from different sectors converge to meet public health and sustainability objectives, and a proper environment as a product of governance is key to achieve that (Graça et al., 2018; De Schutter et al., 2020; Farmery et al., 2020).

From a local perspective, community organization, food policy councils, learning garden programs and the incorporation of local knowledge are commonly described as another way of the interactions that occur as part of food governance actions (Sonnino, 2013; Wilkins et al., 2015; Del Valle et al., 2019). In these cases, farmers' decisions about which animal breeds and vegetables varieties to produce are more influenced by community interests, natural resources, and agronomic skills than by market forces (see Wilkins et al., 2015 an example of sustainable diets through seasonally intake). It is also described that city-region is a key-level of governance to unlock food systems transformation and where collaboration between civil society and municipal government are effectively observed (Vermeulen et al., 2020). For example, food policy councils aim to forge new alliances between producers and consumers and between urban centers and their natural hinterlands (Sonnino, 2013).

Most of the papers selected for the review were strictly focused on food systems governance ($n = 20$; 54.1%), while a smaller portion ($n = 9$; 24.3%) although focused on food systems governance, had some other considerations, such as mentioning agriculture (Allen et al., 2019; Swinburn et al., 2019; Vermeulen et al., 2020), ecosystems relevance (Lang and Barling,

2013; Lang, 2014; Lang and Mason, 2018; Downs et al., 2017; Galli et al., 2020a) and earth systems (Lawrence et al., 2019). In addition, there was a last portion of papers focused strictly on agriculture governance from different approaches. For example, some papers discussed the relevance of agricultural systems governance (Hunter et al., 2016; Pott et al., 2016; Détang-Dessendre et al., 2020) and there was also one focused and governance over agriculture and environment (Dupouy and Gurinovic, 2020).

Sustainability approaches in sustainable diets

Finally, and related to the definition and scope of sustainable diets, it was possible to find different approaches to and definitions of “sustainability.” Three approaches were grouped together: Group 1 ($n = 18$; 48.6%) were those papers mentioning health and sustainability as two complementary dimensions of diets, being the last only referred to environmental concerns, such as carbon and water footprint and/or GHG emissions; Group 2 ($n = 14$; 37.8%) was composed by all the papers that explored other dimensions of sustainable diets beyond the “health and environment duality”; Group 3 ($n = 5$; 13.6%) were all those papers which used the FAO (2010) definition¹ as a theoretical framework for their discussion, meaning another approach to go beyond the health and environment duality. Table 1 shows which papers are in each group.

Discussion

In order to answer the research question “How can food governance transform food systems to ensure better access to sustainable diets?”, the result of this review allows us to focus our attention on the way food governance allows an appropriate environment with context-specific characteristics for food systems to perform.

Regarding sustainable diets, most authors from group 2 agreed that a multi-criteria approach should be adopted when defining them, giving equal importance to health and environment, but also to sociocultural issues, preferences and values, socioeconomic wellbeing, diet quality and equitable access (Downs et al., 2017; Mattioni and Caraher, 2018; Béné et al., 2019; Melesse et al., 2020; Delabre et al., 2021; Kennedy et al., 2021). Is it necessary then to focus on other aspects besides

1 Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.

health and the environmental impact? We believe so, especially because the interrelationships that characterize food systems should no longer be seen as something purely economic focused strictly on food production, but also agronomic, political, institutional, and social, grounded in knowledge, culture, consumer preferences and ways of life, among others (Sonnino, 2013; Eakin et al., 2017; Kennedy et al., 2017). However, this reality arises two related challenges. In the first place the nature of the dimensions involved could represent a special difficulty giving the different approaches and methodologies for addressing the same problem, most of the time not used to work together. And secondly, the fact that these actions are performed by the institutions that compose food systems imply that power, philosophies, values, and interests are involved. The above might imply the arise of tensions, making it difficult to act coordinated to address a major problem. This can be seen, for example, when asking if our contemporary food problems are strictly due to insufficient production and/or to the results of power differentials that results into a “structural violence” (Chappell, 2018). According to the values and interests involved, the answer will vary, meaning that the way of facing this problematic and the actions taken to address it will be different.

In this sense, food systems governance can be considered as a value itself for sustainable diets, as implies a way of designing the “architecture” needed to achieve its goals (Berry, 2019). This means that food governance allows, among other things, an appropriate environment for food systems to transform in order to perform in a sustainable way. However, what makes “an appropriate environment” will depend on the context-specific characteristics around it. Thus, as sustainable diets need a context specific approach in terms of the socio-cultural characteristics at different levels, food governance represents a value that can help achieving its objectives. However, the results of this review are also focused on a national/regional scale, meaning that less attention has been paid to the effects local structures of food governance might have on improving the access to sustainable diets. This is especially important as one of the sustainability dimensions has to do with cultural preferences, knowledge, and ways of life, considered by some authors as “political dimensions” of food security. As mentioned in the introduction to this review, “agency” is an approach to food security that fits and rightly emphasizes the sustainability of food systems based on the power of people to govern them according to their own values and beliefs and to determine their own agricultural and food policy, organize their production and consumption to meet local needs and secure access to land, water and seed (Chappell, 2018). However, only two papers (Mattioni and Caraher, 2018; Galli et al., 2020a) mentioned “agency” as a relevant concept in food and nutrition security discussion when analyzing sustainable diets.

In the third place, and although agriculture production is one component of food systems, according to this review, food governance still does not adequately encompass governing

agriculture, considering its relevance for leading food systems transformations (Hawkes and Popkin, 2015). The agricultural sector should be understood, not only as food provider, but also as a relevant stakeholder in public health planning in respect of nutrition and diets. Thus, the way in which the agricultural sector is governed might be crucial to improve the access to sustainable diets all year round, offering a route to provision of universal healthy diets within the planet’s environmental capacity (Vermeulen et al., 2020). Agriculture governance could also support the environmental health of ecosystems, especially regarding biodiversity, and to reduce the risk to global health shocks (Hawkes, 2007; Détang-Dessendre et al., 2020). This review is focused on some examples of vertical governance, but less information was found in relation to how horizontal governance can be achieved. This is especially important, as is it at the same level where other dimensions of sustainable diets interact. In this sense, the coherence of agricultural and food policies as the result of robust governance is described as a way to ensure that nations comply with the obligation to ensure the right to food for their inhabitants. But, again, to focus on governing agriculture should also imply the local levels, as many dimensions of socio-cultural sustainability are based there.

Finally, is important to note that this study has an important limitation that should be considered, as only a 11% of the selected studies belonged to low- and middle-income countries, which are those whose population suffer stronger effects from crises related to food and nutrition security. In this sense, successful governance examples in wealthier countries must be analyzed carefully when trying to replicate them in different contexts, especially given the importance of socio-cultural values and power management. In addition, the frequency with certain terms that appear in the selected studies must be carefully analyzed. As mentioned in the results section, this review considered studies published between 2013 and 2021. This does not mean that there was no related research in previous years, but rather that it was probably due to other terms and search criteria around food policy.

Conclusions

The results of this study allows to conclude important considerations of food governance and sustainable diets as independent, but also interrelated, concepts. From the food governance perspective, the 37 studies reviewed in this paper indicate that regardless of if we talk about vertical or horizontal governance, it is key to both ensure the sustainability of food systems performance and to avoid crises that could lead into threatening progress related to food and nutrition security. Also, due to the diversity of stakeholders involved, food governance is crucial to balancing power, decision-making

and access to information across the food system, which is particularly important when diverse interests are present. We also found that, although being a key component of food systems, agriculture governance is under-developed as a field of study and more research in this area is essential to achieve food systems transformations that could lead into improve the access to sustainable diets. Related to the above, agricultural governance must be developed to determine which diets changes can simultaneously benefit public health and the environment, and which policy instruments may promote their adoption by the different food systems relevant actors.

Regarding the sustainability of diets standpoint, most of the studies selected in this review understood sustainability strictly from the known “health-environment” duality. However, less attention has been paid to discuss other dimensions of sustainability, especially those related to socio-cultural aspects of diets. In this sense, “agency” appears as a political dimension that goes on that direction and emphasizes the sustainability of food systems based on the power of people to govern them according to their own values, beliefs and needs.

However, the major contribution of this review has to do with reflecting on how food governance and sustainable diets are related, especially since food governance plays a role in supporting the socio-cultural dimension of sustainable diets. This highlights the question regarding how power is managed by different institutions immersed in food systems and the importance of focusing our attention not only in national/regional levels of governance, but also in how local levels organize their knowledge management and decision-making processes to improve the access to sustainable diets. Considering the above, we believe that future research should be focused on continue exploring the value food governance represents for sustainable diets and how the process of governing agriculture can contribute to understand that sector beyond food production for commercialization and visualize new opportunities as a relevant actor both in health and environmental sectors.

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Author contributions

MdV, KS, and AA: conceptualization and methodology. MdV: investigation and writing, KS and SB: supervision, review, and editing. AA: review and editing. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fsufs.2022.784264/full#supplementary-material>

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