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Civil Society Participation in Global Food Security Governance: Deconstructing the Discourse of Evidence-Based Policy Making

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Abstract

Food security has been described as a very tough problem, suggesting that there is no single or simple solution to the problem of food insecurity. Meanwhile, there is a growing body of academic literature on food security that proposes solutions. Global governance is marked by a participatory turn, meaning that there are increasing numbers of global governance processes working to develop processes and mechanisms to enhance the participation of non-state actors in governance and policy making processes. Given this trend, it is not surprising that participation in governance processes has become an interesting site of investigation for research. The result has been the development of a growing body of literature analysing diverse aspects of increased participation, which calls for evidence-based policy making are increasing evidence in global food security policy processes, and beyond. For example, the follow up and review process for the Sustainable Development Goals (SDGs) aim to be "rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable and disaggregated" (UN General Assembly, 2015, paragraph. 74). Evidence-based policy has become pervasive as a universal recipe for transparency, accountability, and good governance. However, its declamatory pervasiveness within public policy buries conglomerate discourses, signification, and practices around what counts as evidence, how and by whom it is utilised, and what impact it has on scholars, researchers, and policy officers. This research furnishes an overview of comprehensive reviews of literature and analyzes special issues of global food security, and policy frameworks. The conquest of evidence-based policy as a discourse, highlighting its close relationship with food security policies, the political, cultural context of its initial emergence in the global world, and its discourses. Evidence-based policy is customarily articulated as a means of speaking truth to power, separating facts from their human contexts. Global discourses on the governance of food security span competing approaches. For example, a neoliberal approach advocates commercialized, industrial agriculture, while food sovereignty and resilience are part of an alternative discourse to food security that prioritizes locally-based agroecological food production. Understanding how global discourses play out locally and how they impact the environment and biodiversity is important to identify appropriate pathways towards sustainability. In addition to their effects on food security, different approaches could reinforce or impede the success of biodiversity conservation because of the strong interdependence of food security and ecosystems. I examined alternative approaches to food security and biodiversity conservation pursued by 30 stakeholders from local to national levels. Agricultural intensification, commercialization, and profit were widely considered important, while support for agroecology and resilience was largely restricted to non-governmental organizations. Except for supporters of the agroecology and resilience approach,

biodiversity conservation was considered as a secondary goal. In conclusion, it is important to acknowledge plurality of food security approaches because local conditions are characterized by a multiplicity of stakeholder interests, and because food security is a complex problem that requires a multidimensional approach. However, major contradictions among existing approaches need to be reconciled, and the agroecology and resilience approach should be strengthened to ensure the sustainable achievement of food security and biodiversity conservation.

Keywords: Food Security, Governance, Policy

Introduction

Despite considerable progress, almost 800 million people are chronically undernourished, 161 million under-five year olds are estimated to be stunted. Meanwhile, 500 million people are obese and 2 billion lack the essential micronutrients needed for a healthy living. Population and income increase as well as urbanization are driving increased and changing food and feed demand. FAO estimates that, to satisfy the growing demand driven by population growth and diet changes, food production will have to increase by at least 60 percent in the next decades. According to the United Nations (2015), there are still 836 million people in the world living in extreme poverty (less than USD1.25/day). And according to the International Fund for Agricultural Development (IFAD), at least 70 percent of the very poor live in rural areas, most of them depending partly or completely on agriculture for their livelihoods. It is estimated that 500 million smallholder farms in the developing world are supporting almost 2 billion people, and in Asia and sub-Saharan Africa these small farms produce about 80 percent of the food consumed (IFAD, 2011). The rural poor often depend partly on forests for their livelihoods (World Bank, 2002). It is estimated that between 660 and 820 million people (workers and their families) depend totally or partly on fisheries, aquaculture, and related industries as a source of income and support (HLPE, 2014). “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (World Food Summit, 1996). This definition points to four dimensions of food security: availability of food, accessibility (economically and physically), utilization (how it is used and assimilated by the human body) and stability of these three dimensions. Globally, food prices continue to shoot up, and setting in economic crisis, millions of people are left unable to access adequate food. International reaction was swift in 2007 – 2008 when food prices continually spiked, and in a bid for leadership, the 123 member countries of the United Nations’ Committee on World Food Security adopted series of reforms with the object of becoming the foremost international, inclusive, and intergovernmental platform for food security. The inclusion of participants (including civil society and the private sector) across all activities of the Committee was a key focal of the reforms. Drawing on data collected from policy documents, interviews and participant observation, preliminary research has been conducted to examine the reorganization and functioning of a UN committee known as a best practice in global governance. Framed by key challenges that plagued global governance, the impact and implication of increased civil society engagement were examined by tracing policy negotiations within the CFS, policy roundtables on smallholder sensitive investment and food price volatility and negotiations on the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security, and the Global Strategic Framework for Food Security and Nutrition. The result showed that through their participation in the Committee, civil society actors were influencing policy outcomes. Analysis also revealed that the CFS is being undermined

by other actors seeking to gain and maintain influence at the global lev2el. Through analysis, this research will provide empirically informed insights into increased participation in global governance processes.

Research Questions

Research Questions behind this push for evidence-based decision-making lies a set of which some could be highly political questions:

- Food Security: Is there coherence?
- How are Civil Society actors influencing policy outcomes?
- Participation in global food security governance: who qualifies?
- What are the main current food supply policy objectives and actions related to global food security and nutrition?
- What are the political dynamics and actor beliefs that underlie food supply policy related to global food security and nutrition?
- How could policy coherence be improved in relation to global food security and nutrition?
- What evidence is considered appropriate?
- What are the impacts of climate change on food security?

Research Objectives

The project identified and analysed:

- examined the diverse networks of international organizations that constitute the global governance of food security and the key issues, actors, and dynamics.
- described the main direct and indirect impacts of policy frameworks on the agriculture sectors. This will lead policy makers to consider impacts on livelihoods. The net impacts on food security and nutrition are the result of the interaction of the physical and economic shock/stressors with the underlying vulnerabilities.
- examined and reflected on how reducing vulnerabilities and building resilience can reduce the overall negative impacts on production, livelihoods and food security and nutrition. It examined various means to achieve this objective.
- the Impacts of Climate Change on the Agricultural Sector, and how policies are spearheading climate adaptation and mitigation to improve food systems
- evaluated calls for evidence-based policy making made in food security policy processes at the global level to better understand the political nature of evidence and the implications this has for policies and claims to knowledge and expertise.
- the emerging and competing understandings and definitions of agroecology as they relate to global food security policy.
- Through this research I gained a better understand of the ways in which agroecology is shaping and being shaped by food security policy processes as a young scholar.
- This research project identified, reviewed, and synthesized trends in civil society participation in global food security governance. I mapped out how participation is understood in the literature as well as in the policy processes. Opportunities, limitations, and challenges of civil society participation were also identified

- identified points of consensus and areas where there is no consensus and theorised the implications of these for increasing calls for evidence-based policies.
- identified what evidence could be used in calls for more evidence-based food security policies and reflected on what this evidence tells us about potential pathways towards a food secure future.
- This research identified and reviewed the key academic contributions and proposed solutions targeted towards policy makers.

Food Security as a Discourse

Allen defines discourse as "the ensemble of social, political, and cultural languages and meanings and codes and relationships that construct, maintain or challenge the social order" (Allen 2004, 7). As such, discourses by nature are contested ways of understanding realities that preoccupy public awareness. Discourses reflect historical processes and public discussions and interpretations of these processes by various social forces and ideologies. Food security as a discourse, in this sense, refers to ideas, attitudes, courses of action, beliefs and practices that define conditions of food provisioning in modern society. Recognizing the discursive context of different meanings attached to the same phrase by different claim-makers, Mooney, and Hunt (2009) identify food security "as an elaborate master frame encompassing at least three different action frames" associated with hunger and malnutrition, community food security and intentional or accidental food safety risks. Using Goffman's musical analogy of keying, Mooney, and Hunt (2009) suggest distinct sets of interests and power differentials among major actors in endorsement or critique of major institutional practices: flat keys represent dominant practices; sharp keys, critical ones. They demonstrate that these variations are not just due to analytical differences in defining what food security is about but reflect inequalities of power within the food system and changing visions of food provisioning and entitlements to food. Unfortunately, the keying metaphor (as flat and sharp) unnecessarily limits their analysis into a dichotomous framework, ignores internal conflicts among the dominant interests and turns the struggles for resistance and change into an abstract policy debate. Fairbairn (2010), Juhasz (2009; 2010) and Koc (2006; 2010; 2011) argue that while the food security concept emerging in response to the accumulation crisis during the 1970s presented some of the earlier developmentalist and rights-based arguments, in later years it reflected a clear neo-liberal vision. The scalar shift from national to household food security as well as the shift from a welfare model to an emphasis on the role of civil society organizations and philanthropy in providing food security reflected the influence of the dominant neo-liberal vision and the shift to a global/corporate food regime.

Although food security as a concept emerged in response to the food crisis during the early 1970s its origins can be found in the post-World War II developments that shaped the global food system. Observers of the modern capitalist economy argue that while reflecting the general laws of motion of the capitalist accumulation process, there are certain historical stages in the economic and political organization of the society. Each of these stages present unique arrangements in terms of the organization of production, distribution and consumption, labour regimes, patterns of socio-political arrangements, and laws and policies (Aglietta 1982; Koc 1994; Lipietz 1987). Several observers have pointed out that similar stages can also be observed in the modern food system, labelled as "food regimes" (Friedmann and McMichael 1989; Le Heron 1993; McMichael 2009). Food regimes recognize a correspondence between changes in the food system and dominant economic trends, regulatory characteristics, and national and international policy arrangements.

In this paper I will be focusing on the changes in the food system during the post-1970s period, a period that is identified with a global or corporate food regime (McMichael 2009). Before elaborating on the changes during the global food regime, however, I would like to identify some key characteristics of the modern food system that had prevailed in the previous decades. These key characteristics are important for our understanding of the structures, processes and institutional practices of the modern food system, and the factors that led to the rise of the food security discourse in mid-1970s. One of the most significant developments that played a key role in shaping the conditions of food provisioning was the rise of the nation state. Emerging first in Western Europe, the number of nation states multiplied throughout the twentieth century, especially after the collapse of the colonialist regimes in the post-World War II era. Most of the nation-building projects considered food provisioning a domestic priority and encouraged agricultural production for domestic food security as well as the financial base for the domestic development projects.

However, anarchy of production in the global markets and tensions among imperial powers led to frequent economic and political crises such as the Great Depression and the World Wars. The Great Depression played a key role in the adoption of interventionist policies in agriculture. In the US, farm-support policies resulted in the formation of huge food stocks. Subsidized cheap grain as animal feed played a crucial role in the expansion of the livestock/meat complex. The surplus food was also used as food aid to entice newly emerging nation states in the former colonies to undermine peasant-based subsistence production and specialize in the production of agricultural commodities for exports. In 1954 the US Agricultural Trade, Development and Assistance Act (Food for Peace) was signed to provide US food aid to assist war-torn Europe and the emerging new nations in the global South.

In 1963, the World Food Program (WFP) was established to use food aid for social and economic development. Commodification and food aid policies mostly benefited large landowners who could afford required investments in large scale monocrop farming and agricultural implements and inputs in the developing countries and forced increasing numbers of subsistence-based peasants out of agriculture. Food provisioning was not only a national, but also an international priority. In the post-World War II era, the prevailing international food policy priority in the West has been the modernization and rationalization of production and removal of obstacles to international trade. As early as 1941, the Atlantic Charter, an accord between the US and British governments, included policy frames such as “freedom from want,” “lowering of trade barriers,” and “global economic cooperation and advancement of social welfare” (Cépède 1984). John Boyd Orr, the man who would become the first Director-General of the United Nations Food and Agricultural Organization (FAO), defended the need for increased production of food, expansion of the world economy to provide purchasing power for all and control of the world food supply (Orr 1943, 34-36). One of the most significant outcomes of the developmentalist modernization of the agri-food system was the spread of high-yield hybrid seeds and intensive agriculture known as the Green Revolution in the developing world. The Green Revolution, which started in the 1940s and continued throughout the 1960s and 1970s, led to further modernization of agriculture in many developing countries. The Green Revolution relied on intensive agricultural production, using high-yield hybrid seed varieties and farm inputs, such as fertilizers, herbicides, and pesticides. Supported by irrigation and the mechanization of production, it led to significant increases in yields in grains. However, these technologies were not accessible to poor rural families and resulted in the concentration of production in the hands of mechanized farmers, pushing millions of impoverished poor peasants into the cities. The 1950s and 1960s were the golden era of consumerism in North America.

Shaped by the Fordist accumulation strategy that emphasized mass production for mass consumption (Baca 2004), durable food and intensive meat commodity complexes expanded (Atkins and Bowler 2003; Le Heron 1993; Koc 2009; McMichael 2009). The consumerist tendencies that peaked in the 1950s became the driving engine of economic growth, creating new markets for processed food industry and food retailers on a global scale. Fordism, by promoting mass consumption while "democratized" the marketplace by making consumer goods accessible to wider segments of the population created further strains on the environment and resources. One of the best examples of the Fordist obsession with efficiency in delivering cheap food for the wider masses was the rise of fast-food industry, what Ritzer (1996) calls McDonaldization. McDonaldization brought assembly line technology to fast food production. With its emphasis on efficiency, calculability, predictability, and control, rationalization of production in the fast-food sector soon transformed other major segments of the value chain from meat processing to frozen fruits and vegetables (Ritzer 1996; Schlosser 2001). In its pursuit of large profits, the fast-food industry worked towards lowering the cost of production by using unskilled non-union workers and automation and emphasizing quantity instead of quality. The fast-food revolution not only transformed the modern food system, but its managerial structure also set a model for the economic restructuring of the 1980s.

The two decades between the World Food Conference of 1974 and the World Food Summit (WFS) of 1996 were marked by free market liberalism, the intensification of global economic relations, and the restructuring of the economy and the state (Araghi 2003; Barndt 2002; Bonanno et al. 1994; Friedland 2004; Koc 1994; McMichael 2005; Moreira 2011; Pritchard 2005; Tilzey 2006). Corporate response to the crisis included measures such as a shift to the new information technologies, decentralization and privatization, emphasis on increasing rationalization and efficiency; deskilling, use of cheap labour and intensification of the work process; and global sourcing of resources. Globalization of the industrial and agricultural production was accompanied by an even more dramatic trend in the globalization of the financial markets (Harvey 2005; Inglis and Gimlin 2009; Lipietz 1987; Thornton 2004). These changes were justified by the dominant neo-liberal ideology. Neo-liberal ideology justified these changes and emphasized the free movement of goods and services across borders, the shrinking of the role of the state in the economy, the dismantling of social programs and changes in the conditions of work. Neo-liberal reforms adopted by many governments around the world, including Canada, aimed to dismantle government-run social programs, and brought changes in public policies, programs, and institutions such as minimum wage laws, trade union rules, environmental protection acts, unemployment insurance, public medicine, marketing boards, supply management and co-operative structures (Bonanno 2004; Burch and Goss 1999).

The immediate impacts of these changes reflected a decline in well-paying unionized jobs with rising employment in the service sector, precarious and part-time employment, and the rise of the informal sector. Decline in social programs made the situation worse, resulting in higher rates of poverty and food insecurity. The neo-liberal food security discourse included a shift from a rights-based language to a market-oriented one that defined food as a commodity and food insecurity as a personal failure of not having enough income to purchase food. A World Bank document in 1993 would clearly reflect this shift: In practice, however, food is a commodity. Access to it is largely a function of income and asset distribution, as well as the functioning (or malfunctioning) of food production and marketing systems. From this perspective, access to food is governed by the same factors that govern access to any other commodity. (134, cited in Fairbairn 2010, 2[8]) Another important change in the food security discourse during the neo-liberal era was a shift from an autarchic, state centric model to market liberalism and

shifting food security objectives from the national level to the household level. As World Bank experts suggested, "food security is achieved only if all households have the ability to buy food, there is no necessary link between self-sufficiency and food security (1986, 31, cited in Jarosz 2011, 125)."
These changes paralleled a new emphasis on the role of decentralization of the state (regional and local governance), civil society organizations such as community-based organizations, NGOs, and charities in service delivery to fill the gap left by the shrinking of the nation state (Bonanno et al. 1994; Koc 1994; Moreira 2011). In this environment driven mostly by market priorities, civil society organizations (CSOs) have tried to be the voice of the marginalized and defend the priorities of social justice and development. Governments and industry representatives have been inviting CSO representatives to consultative meetings to get their feedback on various issues dealing with international and domestic policy. The so-called consultations have often been criticized by civil society representatives as mere lip service, simply serving to legitimize existing structures rather than being a transparent, participatory, and democratic process (Hodgson 2004; Koc et al. 2008). As national social programs shrank or were downloaded to provincial and local governments, often the burden of care was transferred to families and CSOs. Philanthropic organizations, such as food banks, started filling the gap left from government-run social programs (Power 2005; Riches 1997; Tarasuk and Eakin 2005).

Literature Review

The global governance of food security provides a relevant policy field to study the dynamics and consequences of inter-organizational relations. However, a significant challenge for scholars and students alike is that the global governance of food security is a relatively understudied domain of inter-organizational relations. This research examined the diverse networks of international organizations that constitute the global governance of food security and the key issues, actors, and dynamics, eleven issue areas were identified in which there are significant clusters of international organizations interacting. Cooperation and rivalry among international organizations in the field of food security is reviewed across issue areas and over time. A review of the existing literature suggests that equal parts of inter-organizational cooperation and rivalry are symbolic of the global governance of food security, however, the causes, dynamics, and scope are shaped by wider developments in the global political economy. Special consideration is given to the transformation of inter-organizational relations following the 2008 Global Food Crisis, which prompted a major reordering of interorganizational relations and the dynamics in the global governance of food security. The global food crisis from 2008 affirmed that the struggle over the global food system is not between farmers in the 'Global North' and the 'Global South', but an intensified struggle between two opposing pat 10 for food and agriculture: those upholding the dominant status quo model of industrial agriculture and those struggling for alternative models emphasizing local diversified and resilient food systems. The dynamics behind the intensified struggles over the agriculture model should be the basis for the future development path. Members of the global food sovereignty movement, uniting peasants with artisanal fisher folk, pastoralists, indigenous peoples, urban poor, and other concerned citizens have found new ways to challenge the dominant paradigm: people-driven alternatives are underway, produced by the social actors that feed most of the world's population. Global and local perspectives are a unique combination of a food regime analysis combined with personal portrayals of encounters with some of the key actors engaged in the struggle to solve global food problems, in particular small-scale food producers themselves. The interface between institutions and civil society makes this volume a fascinating insider's view on some of the bold ongoing transformations

and dynamics in the global system today. Democratizing Global Food Governance: One of the central goals of the research was to shed more light on ongoing experiments to push forward a more transparent and accountable governance directed to take authority and control of food out of the hands of markets and corporations. In this regard, the 2009-reformed Committee on World Food Security (CFS) is presented as one of the more encouraging developments in food governance at the global level. By examining the example of the CFS reform as an expansion from a purely intergovernmental process to an inclusive global policy forum, where participants other than governments have the right to contribute to formulation of policies, the research explored the shift towards more legitimate and transparent practices for global policy making on food and agriculture. One distinctive feature in the CFS reform in which civil society organizations and social movements took part has been the self-establishment of an autonomous civil society mechanism (CSM) functioning as an interface for civil society actors engaged in the global policy processes in the CFS. With a design to award a greater voice to organizations directly representing sectors of the population most affected by food insecurity, such as peasants, fisherfolk, pastoralists, indigenous peoples, the CSM distinguishes itself from most other civil society spaces often dominated by NGOs and other less transparent networks not accountable to a broad membership base. The establishment of the High-Level Panel of Experts (HLPE) as a new model of 'thinking science. The panel does not only comprise experts from scientific backgrounds and academics, but it also adds other forms of non-academic's empirical knowledge to build its reports on diverse issues to provide background information and analysis for evidence-based decision-making. While on it, it challenges the very foundation for global decision-making: the way food insecurity is measured, method of data collected and arranged, the source of evidence is very essential. Policy should be based on evidence, that is the foundation of development and poverty studies, and a discourse espoused by majority of think-tankers and institutions that oversee research in these fields. Evidence-based policy making drives political decisions concerning what is regarded as evidence. Evidence based policy making signifies:

- What policy should be
- The desirable relationship between evidence and policy
- What the appropriate conduct is for, researchers and policymakers.

The Problems with Food Security

A greater percentage of recent research is focused on food security policy and discourses of food security as they take shape at the global level. Food security is a complex concept that has been well analyzed and critiqued. Despite the limitations and an overwhelming failure to achieve it, or even improve it globally, ''food security'' continues to dominate in policy discussions regarding hunger. It appears policymakers lack the creativity, energy or political will to generate a new phrase or term to represent "food security'. The evolution of food security policy is purposed to reinforce a wider radical project, which helps define why it has remained the main concept to begin to engage in conversations about hunger and access to food at the global level. Considering the supreme nature of radicalism in global policy making, adding food security policy it, makes sense that powerful actors desire to continue its usage. Just as it makes sense that peasant farmers and food activities want to see more policies framed by food sovereignty. Some states have started talking about food sovereignty policy, but an uptake of food sovereignty at the global level any time soon seems unlikely, despite a statement made at the 32nd FAO regional conference for Latin America and the Caribbean: The Conference opined that FAO should organize a wide-ranging and dynamic debate with the participation of civil society and academia to discuss the concept of food

sovereignty, whose meaning had not been agreed by FAO Member Countries or the United Nations System. While some people are routing for this, others do not want to see food sovereignty brought into multilateral processes where it would be debated and a concrete definition negotiated because, this would serve to de-politicise and disempower the political framework, move it away from a movement discourse, which many people think is where it garners the most strength and legitimacy. It is a powerful concept outside of the "iron cage" of the FAO's bureaucracy. More thoughts need to be put into weighing the pros and cons of this proposal by Latin American and the Caribbean, but I veer. There are issues concerning the concept of food security, especially in terms of moving forward and achieving the goals of food security: universal access to food.

- Cyberpunk definition and approach: extremely hammered out.
- Food security is constructed as disembodied, non-located, absent from political, economic and sociocultural context: It is decontextualized.
- Food insecurity is embodied (normally a woman (mother), it is located (usually Africa), and framed within a specific socio-cultural context at the local or national scale.
- There is a disconnection between the way in which the end goal (food security) and the problem (food insecurity) are understood and framed.
- Food security is apolitical: fails to accept the political processes that contribute to food insecurity.
- In terms of policy making at the global level, states are being asked to monitor their own progress and to prioritise development. States predominantly continue to prioritise economic values: food security as an outcome of strong economy.
- It is a form of morality within the political economy and fails to address over-consumption or obesity and fails to break down systems: we talk of 1 billion hungry but fail to make appropriate links to, or recognise, obesity or, perhaps more importantly, the impact of western or wealthy consumption patterns on food security worldwide.
- Analyses of food security policy at the global level seeks the question: food security for who?

The Global Governance of Food Security

The global governance of food security is a knotty field of international cooperation and policymaking. As the international consensus definition of food security suggests, an individual's, community's or nation's access to food is determined by far more than good weather and great harvests, (they are very important factors regardless), there is an intertwined coordinates of micro and macro level factors that may build food insecurity. The global governance of food security can thus be ideated as the set of global-level international organizations (including formal inter-state organizations and NGO's), norms and policy actions oriented towards progressively achieving world food security at multiple-scales (Cohen and Clapp 2009; Margulis 2013; Candel 2014; McKeon 2014). Achieving global food security is an area of concerted activity with demonstrable success, reducing world hunger has long been a major objective of the post-war order and the establishment of the FAO in 1943 can be considered the origins of the contemporary global governance of food security.

In recent years, there has been an increase in global governance activity for food security: reducing the number of hungry people worldwide was enshrined as a collective international objective in the Millennium Development Goals (MDGs) in 2000 (Fukada-Parr and Hulme 2011; Fukada-Parr and Orr, 2014). In 2004, nation states negotiated a set of international guidelines for implementing the human right to food at the national level (FAO 2004). The 2007-2008 Global Food Crisis spurred further changes to

the global governance of food security, including the reform of existing global institutions and creation of new ones to address embryonic and emerging future drivers of food insecurity such as climate change and the pecuniary of food (Cohen & Clapp 2009; Clapp 2012). The global governance of food security avails an essential policy field to study the dynamics and consequences of inter-organizational relations. Food insecurity has a greater profile in world politics, there is so much interest in the subject by IR scholars; in sharp contrast, interest in the international organizational dimensions of food security is of a more constant interest to scholars of International Development and Food Policy. More importantly, and relevant to the subject of inter-organizational relations, food crises tend to produce major changes in inter-organizational relations and arrangements and thus are key starting points for understanding changing and transforming inter-organizational relations in the global governance of food security. Since the 2008 global food crisis, scholarship on the inter-organizational dimensions of food security has grown. We can observe the following characteristics of the areas of focus of this emerging literature. First, the number and type of international organizations with a mandate to work on food security has rapidly expanded in recent years (Margulis 2012: 2013; Barling and Duncan 2015; Duncan 2015; Margulis and Duncan forthcoming). As a result of this institutional proliferation, there is increasing interaction among international organizations that vary significantly in their missions, policy preferences, and memberships. Second, because a unique feature of the global governance of food security is the highly diverse range of factors that may affect food security outcomes on the ground (i.e., bad weather, a regional conflict, introduction of a new biotechnology, biofuel mandates, and so on), there are no clear-cut demarcations or mutually recognized boundaries among international organizations about which one has centralized political authority (Margulis 2013). As a result, contemporary global governance of food security is not captured well by the concept of an international regime because of a lack of agreed-upon norms, principles, and expectations of behaviour. This is most acute to diverging visions among international human rights bodies and the Bretton Woods organizations (see Gonzalez 2002; Forsyth and Faran 2013; Hawkes and Plaha 2013). Rather it displays more characteristics akin to that of a regime complex because of the overlap of various international organizations across issue areas that matter for food security (Margulis 2013). A third and significant feature is the growing number of interdisciplinary studies on the relationships among formal international organizations in the field of food security with a variety of NGOs (Leise 2010; Burnett 2013; McKeon 2014), new social movements such as peasant organizations (Claeys 2014; Brem-Wilson 2015), philanthropic organizations (Brooks 2011) and private sector organizations (Clapp and Fuchs 2009; Margulis and Porter 2013; Nesadurai 2013). Contemporary global governance of food security can be conceptualized as a complex and fluid set of inter-organizational clusters that work on one or multiple dimensions of world food security. Within and across inter-organizational clusters, we can observe variation across organizations with respect to the following characteristics: degree of formality/informality, specialization/generality, organizational mission, financial and human resources, and penetrability to principals and outside agents (Margulis 2013).

Mapping the Organizational Dimensions of the Global Governance of Food Security

The global governance of food security is characterized by a non-hierarchical, clusters of international organizations. In this context, global governance refers to the set of norms, rules, organizations, actors, and practices that govern an issue area across global to local scales (Rosenau 1995; Dingworth and Pattberg 2006). This includes international and public modes of global governance such as formal international organizations, legal agreements, and treaties. However, the role of non-state/private modes

global governance relevant to food security, and their overlap with international/public ones, is also an important feature (Clapp and Fuchs 2009; Sikor et al 2013; Auld 2014). Clusters of international organizations refers to sets of international organization-based actors (most often staff of these organizations) working on specific policy, scientific, programmatic, and legal dimensions of food security, however, in practice such clusters are often augmented with experts including State-level officials, private sector officials, academics and global civil society actors. Relevant organizations cover a wide spectrum of policy fields and vary significantly in institutional form (i.e., ranging from formal institutions linked to international treaties to informal clubs of nation states). Below I map out the contours of existing global governance of food security along the following issue areas: Nutrition; Agricultural Production; Agricultural Trade; Food Safety; Human Right to Food; Agriculture and Development; Agriculture and Climate Change. These seven issue areas are selected because they cover the key subset of policy, political and legal aspects of world food security most relevant to the study of international organizations and their interactions. Within these seven issues areas we find clusters of international organizations active within which organizations tend to exhibit varying mandates, operational functions, resources, and expertise. In some instances, one international organization may be active in one or more of the issue areas; this is especially the case for large and complex international organizations. Below the global governance of food security is mapped out by issue area/policy field with the corresponding international organizations.

Nutrition

This includes international standard-setting on nutritional, public health policy-making activities linked to nutrition, and the mobilization of resources, and direct provision, of international food. The Global Governance of Food Security assistance for food insecure and marginal populations. The main international organizations active in this cluster are the World Health Organization (WHO), Food and Agriculture Organization (FAO), World Food Programme (WFP), and Food Aid Convention (FAC); in addition to these formal international organizations the UN Standing Committee on Nutrition and Food Security (SCNFS), UN High Level Task Force on the Global Food Security Crisis (HLTF) and Group of Eight (G8) are important informal organizations/networks working in this policy field.

Agriculture Production

It is a very broad area of food policy which includes the production and dissemination of knowledge of food systems, and production techniques such as applied research in pest control, disease eradication and plant breeding. The FAO, the Consultative Group on International Agricultural Research (CGIAR), and the International Food Policy Research Institute (IFPRI) are the most prominent institutions in this regard. Peculiar aspects of certain spheres of agricultural production that are characterized by relatively fixed and lengthy total production time, and a significant gap between total production time and labour time created obstacles for the real subsumption of the labour process in agriculture. The susceptibility of prices to due to violent climatic and market fluctuations were further disincentives for capital's direct involvement in the production process in certain sectors of agriculture. For these reasons modern factory farming/plantation operations remained limited to certain geographies or certain commodities. Formal subsumption through vertical or horizontal integration and forms of contract farming arrangements has continued to survive in the agri-food sector until the present. However, with its crucial role in the reproduction of labour, food provisioning or providing “cheap food” literally and metaphorically has become crucial for capital. As wider segments of the population have lost their ability to produce their

own food, food provisioning has become a never-ending concern for the modern state as this task was not only crucial for the accumulation process but also for the stability of the political regimes.

This made exploitation of slave labour, indentured labour, peasantry, simple commodity producers and farm labourers doubly important for the accumulation process for appropriation of the surplus value produced in agriculture, while at the same time reducing the cost of reproduction of labour. Despite its wide use, food security has been a rather confusing concept with multiple definitions, and different priorities that kept changing over time (Maxwell and Slater 2004; Shaw 2007). One of the most used definitions of food security is that it is a condition "that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO 2002). Adopted by the United Nations Food and Agricultural Organization (FAO) at the World Food Summit of 1996, this definition is one of over 200 different definitions of the concept (Maxwell and Smith 1992). As a report by the FAO stated, food security "is a flexible concept as reflected in the many attempts at definition in research and policy usage. Whenever the concept is introduced in the title of a study or its objectives, it is necessary to look closely to establish the explicit or implied definition" (FAO 2002). Meaning different things to different people, food security appears as a wish list rather than an analytically robust construct. A recent scholarly scrutiny of the food security discourse is bringing much needed critical perspective to our comprehension of the concept (Allen and Guthman 2006; Fairbairn 2009; Holt-Gimènez and Shattuck 2011; Jarosz 2009 and 2010; Koc 2006 and 2010; Martin 2010; McMichael 2009; Mooney and Hunt 2009). Reflecting insights of the political economy and political ecology literatures, these studies offer us a review of the conditions of production, distribution, and consumption of food in modern agri-food system; impacts of globalization and neo-liberal reforms on the livelihoods of people; and the role of ideologies and discourses in legitimizing of or resisting to these conditions. Examining the changes in the discourse of food security, these recent studies point out that the perplexity of food security is not accidental but is reflecting shifts in the social organization of the economy and the food system in the latter half of the twentieth century. These studies relate the changes in food security discourse to the specific ways the food system is organized, the policies and practices that define conditions of food provisioning, and the politics of food (Fairbairn 2010; Jarosz 2009; Koc 2006). By connecting diverse segments of production, processing and retailing, vertical integration, on the other hand, allowed corporations to control their upstream suppliers and downstream buyers, creating virtual monopolies. In this scheme, farmers were forced to keep producing with ever-declining returns. Like hunger, the farm crisis became a permanent feature of the modern food system in the neo-liberal era (Qualman 2001). In Canada, between 1985 and 2004, net farm income declined in real terms by an average of $104 million per year (at 1992-dollar rate), although output prices slightly increased by about $90 million annually. National Farmers Union claimed that the net market income in the early 2000s fell even below the Great Depression levels in Canada (NFU 2005).

Dealing with victims of corporate and state restructuring has increasingly been left to community-based civil society organizations (CSOs). However, lacking the legitimacy of the state and political parties, CSOs have often been dismissed as self-serving interest groups. Instead, they have been expected to work with limited financial resources, while competing among themselves, and expected to assume the eroding functions of the welfare state. Running from project to project, they were under constant pressure to seek funding often from corporate donors or private foundations, relying on volunteer labour, dealing with high labour turnover rates, running from project to project with shortage of trained personnel and funding (Koc and Bas 2012; Koc et al. 2008).

The community food security (CFS) frame that has been identified by many observers as a progressive alternative food initiative (AFI) in challenging the dominant food system (Bellows and Hamm 2003; Mooney and Hunt 2009; Slater 2007; Winne, Joseph, Fisher 1997) needs to be understood within this neo-liberal context of the shrinking welfare state, and shifting of the burden of care to families, communities, and civil society organizations. While CFS initiatives, like food banks, were genuine community-based initiatives to respond to the crisis, they were neither seen as serious threats to the institutional practices of the global food regime, nor were on a collision course with the dominant neo-liberal ideology. By the 1990s food insecurity was on the rise not only in the underdeveloped countries but even in advanced industrial countries such as Canada (Riches 1997; Tarasuk and Beaton 2003). According to the FAO estimations, there were approximately 800 million people around the world suffering from hunger and malnutrition (Koc and MacRae 2001). In response to increasing public criticism, the FAO called for the World Food Summit in Rome (WFS) in 1996 to formulate a global food security agenda. The Rome Declaration on World Food Security and the WFS Plan of Action adopted in 1996 called for each nation to develop and implement a national plan of action to achieve food security domestically and internationally. A commitment was signed "to eradicate hunger in all countries with the target of reducing by half the number of undernourished people by no later than the year 2015 (FAO 1996)."

A parallel civil society meeting held by the WFS offered considerable criticism of corporate concentration, global trade policies, and widening social inequalities. Via Campesina, the new organization representing peasants and small family farmers offered an alternative discourse of food sovereignty as the right of peoples to define their own food and agriculture and to protect and regulate domestic agricultural production and trade to achieve self-reliance and sustainable development objectives (Desmarais 2007; Wittman, Desmarais Wiebe 2011). Long-term food security depends on those who produce food and care for the natural environment. Food is a basic human right. This right can only be realized in a system where food sovereignty is guaranteed. Food sovereignty is the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity. Food sovereignty is a precondition to genuine food security. (Via Campesina 1996) Possibly to partially incorporate these criticisms, the Rome Declaration included phrases recognizing the significance of partnership with civil society actors and their role in enhancing food security. But critics of FAO argued that civil society partnership really meant community organizations filling service gaps left by shrinking government programs; sharing the burden but not the decision-making power (Koc et al. 2008). As Patel (2009) states however, recognition of the role of civil society marked the success of activists and the NGO and policymaking community to include non-state actors and to shift the discussion away from production issues toward broader social concerns, it was also an intervention in a very different world and series of debates. No longer was there a Non-Aligned Movement. Nor was there, at least in the world of state-level diplomacy, the possibility of an alternative to US-style neoliberal capitalism. It was an intervention at a time when neoliberal triumphalism could be seen in the break away from a commitment to the full meeting of human rights, to the watered down Millennium Development Goals, which provided, under the mantle of 'realistically achievable goals', a much more elastic time frame for the achievement of goals that were intended by the authors of such goals to be delivered with all due haste. (Patel 2009, 664)

Trading in Agriculture

Agricultural trade spans policy harmonization of customs and tariffs applying to the cross-border flows of food and agricultural products, national support programs for the agricultural sector, technical barriers to

trade, intellectual property rights for seeds and plant genetic materials, and settling of international disputes. In addition, this issue area has come to encompass linked issues such as foreign investment in the agricultural sector and the trading of agricultural financial products. The key international organizations active here are the World Trade Organization (WTO), International Grains Council (IGC), Organization for Economic Development and Cooperation (OECD), United Nations Conference on Trade and Development (UNCTAD), and the World Bank.

Food Safety

This policy field is associated with the transnational standard setting on food safety, preventing outbreaks of international food-borne diseases and pests, and general promotion of food hygiene and health. This is the most institutionalized cluster of global food security governance with a global standard setting taking place at the Codex Alimentarius that is co-managed by the WHO and FAO; international enforcement takes place through the WTO's Agreement Sanitary and Phytosanitary Measures (SPS).

Human Right to Food

This primarily consists of promoting the human right to food at the international and national level, including the monitoring of state action. The main international organizations here are the Office of the High Commissioner for Human Rights (OHCHR), which services the UN Human Rights Council, supports the work of the UN Special Rapporteurs on the Human Right to Food, and implementation of the International Covenant on Cultural, Social and Economic Rights (ICCSER). The FAO is active in this field in assisting its member states to adopt and implement the right to food into national law and institutions. In 1974 FAO sources announced that out of a world population of 3.7 billion, 400 million people were hungry. The World Food Conference's definition of food security reflected its traditional concern with food supply, expansion of consumption and international trade: "Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices" (United Nations 1975).

The Universal Declaration on the Eradication of Hunger and Malnutrition adopted on 16 November 1974 by the World Food Conference underlined the importance of international cooperation for food security: The well-being of the peoples of the world largely depends on the adequate production and distribution of food as well as the establishment of a world food security system which would ensure adequate availability of, and reasonable prices for, food at all times, irrespective of periodic fluctuations and vagaries of weather and free of political and economic pressures, and should thus facilitate, amongst other things, the development process of developing countries. By incorporating elements from earlier "rights" discourses and addressing criticisms about existing inequalities, this new definition was a significant advance from earlier food security discourses that primarily stressed availability through productive capacity and food aid and market stability through prices policy and stocks. The early food security frame reflected the post-war vision about economic growth through market economies, leadership of nation states as key actors in securing conditions of accumulation and food security domestically, and international cooperation for food security through effective management of global stocks, commodity prices and food aid. Increasing protests all around the world throughout the 1960s and 70s were challenging the post-War hegemonic order demanding expansion of citizenship rights, including the right to food, opposing imperialist wars, underdevelopment of the global South, and the role of transnational corporations and international financial institutions such as the International Monetary Fund (IMF) and

the World Bank in this process. Critics of these policies were pointing to the ill effects of the global expansion of commodity relations, productions strategies, and dependency relations (Frank 1967; George 1976; Lappé and Collins 1977; Mamdani 1972). As critics would argue, however, the reason for lack of food security was not shortage of food, or overpopulation, but unequal access to means of livelihoods including food.

Amartya Sen (1981), for example, in his analysis of famines, would argue that food insecurity reflected differences in power and entitlement. Responding to these criticisms, the FAO (1983) adopted a definition of food security by including an emphasis on accessibility: "Ensuring that all people at all times have both physical and economic access to the basic food that they need."

At the WFS, food security was defined as a condition "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO 1996)." This definition is further refined in The State of Food Insecurity 2001: "Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

Deepening Crisis of Accumulation and Food Security in the early 2000s Following the recessions of 1974-75 and 1980-82 global restructuring and reorganization of finance resulted in a new wave of economic growth which lasted till the crisis in Asian markets in 1997 (McNally 2009; Panitch, Albo and Chibber 2011; Panitch and Leys 2004). The neoliberal era resulted in a severe decline in the countryside, resulting in further movement of the marginalized rural populations into urban areas (Klein 2007; Panith and Gindin 2009). For the first time in human history, the number of people living in cities exceeded the number of people living in the countryside by the early 2000s. Following the WFS, many countries, adopted national action plans for food security, following the language of the Rome Declaration (Koc and Bas 2012). The follow up meeting, which was supposed to be held in Rome in November 2001 five years after the original summit was cancelled due to security concerns following September 11 that year. Unregulated financial markets deepened the crisis of global finance and the number of people living in poverty began to rise again. When the World Food Summit-Five Years Later (WFS-FYL) meeting was held in Rome in June 2002, global priorities had again changed.

At the WFS-FYL meeting, the FAO announced that the 2015 target was unreachable. The new target was reducing the number of hungry to 440 million by 2030. By 2004 "food security" was now used in reference to the prevention of intentional contamination of the food supply through tampering or other malicious criminal or terrorist actions or threats (ASTHO 2006). In the US, for example, USDA has identified a set of new biosecurity challenges to prevent, detect, and act in response to food safety emergencies, including: biosecurity of Food and Food Supply, food Security and Emergency Preparedness, along with a number of diseases such as the Exotic Newcastle Disease (END), Avian Influenza, Hoof and Mouth Disease (FMD), Bovine Spongiform Encephalopathy (BSE), and Soybean Rust (SBR).

Seeking "sustainable solutions" to environmental catastrophes created by global Fordism that sustained increasing production and consumption, to the threat of peak oil, global warming and to deal with its environmental critics, global capital decided to "go green" by using part of the global grain and oil seed stocks as biofuel (Weis 2007). Between 2004 and 2010 the number of grains used as biofuel rose from 2 percent to 6.5 percent of the global production (Searchinger 2011). When speculations in the global commodity markets and plans to use grains and oil seeds as biofuel raised food prices, riots spread throughout the world (Clapp and Cohen 2009). Deregulation of the Commodities Futures Trading

Commission in 1999 allowed global finance organizations such as Goldman Sachs and the Deutsche Bank to develop commodity indexes and speculating from fluctuations in the futures market (Kaufman 2011). Oil rich countries aiming for long-term food security and investment firms seeking better returns through large scale grain and oil-seeds production in a world of increasing commodity prices, began purchasing or leasing large tracks of land in the South (Vidal 2010).

By 2008, "stability" was added to the conventional lists of food security priorities (FAO 2006). The Human Security Unit at the UN Office for the Coordination of Humanitarian Affairs claimed that "food insecurity is inherently interlinked with political security, socio-economic development, human rights, and the environment. Consequently, a sharp rise in food prices can have a significant impact on human security reaching far beyond the immediate effects of hunger and malnutrition" (UNOCHA 2009, 1). Interestingly, this time stability was not just stability of the commodity prices as in 1974, but was political stability, in an era of global re-colonization. Increasingly, food came to be used as a legitimate tool of punishment or discipline toward unfriendly regimes. Sanctions, in Iraq, Yugoslavia, North Korea, Palestine, Libya, Zimbabwe and elsewhere included denial of food and turned into collective punishment for millions of people while the global commitment to food security continued to reduce the numbers of hungry (Koc, Das and Jernigan 2007).

Agriculture and Development: Inter-Organizational Relationships of the Global Governance of Food Security

The global governance of food security is characterized by a complex and changing set of inter-organizational relationships. That is, there is no singular inter-organizational dynamic such as cooperation, rivalry or conflict that best describes this policy field; instead, it is better conceptualized as consisting of polyvalent inter-organizational relationships (Bergessen 1980; Uvin 1994; Shaw 2007; Margulis 2009: 2012: 2015). This has a very close intersection with international development and encompasses a variety of policy interventions that, in general, seek to improve the material living standards of rural peoples and peasants in developing countries (there are an estimated 2.5-3 billion people whose livelihoods are linked to agriculture). Most active here are the World Bank, IFAD, and regional development banks such as the Asian Development Bank (ADB) and African Development Bank (AFDB), which finance and monitor agricultural development projects. In addition, the FAO and UNCTAD are active in policy formulation and project evaluation in this field. Value chains encompass the organization, coordination and linkages, power dynamics, and governance between actors (Helmsing and Vellema, 2011; Ingram et al., 2018). Value chains foster the dynamic relationships and multi-actor interactions among the diverse actors involved in production to consumption activities for value creation and market linkages (Ayele et al., 2012), through knowledge exchange, information sharing, capacity strengthening, joint learning, and continuous problem solving (Kilelu et al., 2017; Maestre et al., 2017). Peterson et al. (2001) distinguished five major governance structures, namely spot/cash markets, specification contracts, relation-based alliances, equity-based alliances, and vertical integration.

In contrast to the classification by Peterson et al. (2001) and Gereffi et al. (2005) developed five types of global food chain governance market, modular, relational, captive, and hierarchy which range from low to high levels of explicit coordination and power asymmetry. According to Trienekens (2011), different disciplines such as new institutional economics, social network theory, and supply chain management, have contributed to the development of value chain theory (Arato et al., 2017). The theory of new institutional economics suggests that the behaviour of economic agents is influenced by the social and

institutional environments in which they operate (Jordaan et al., 2014). The social environment refers to the social dynamics (i.e., customs, norms, and traditions) within communities of actors, and the social capital of the individuals influences collective actions (Jordaan et al., 2014). The institutional environment contains the rules and regulations for creating order to protect individuals against opportunistic behavior, it also encompasses the incentives for guiding the behavior of economic agents (Milagrosa, 2007; Ouma et al., 2017).

However, institutional economics has been criticized since it ignores the informal, socially embedded relationships in producing stable contract conditions (Demsetz, 1988). Social relationships, such as network and trust, play a very important role in shaping value chains, e.g., in the context of Asian culture and relationship exchanges (Zhang and Aramyan, 2009). Social network theory explains how aspects such as trust and reputation, beyond economic considerations, shape value chains and influence the structure and length of value chains (Trienekens, 2011). Although supply chain management was argued to pay little attention to supply chain governance (Vlachos, 2014), supply chain management theory has contributed to the development of value chain theory. Some studies show that value chain governance is equivalent to supply chain governance, which refers to the rules, structures, and institutions that guide, control, and lead supply chains, providing the framework within which supply chain transactions are negotiated and executed (Vlachos, 2014; Amentae et al., 2018). Management, as used in this paper, relates to entrepreneurial tasks and decisions that relate to the functioning of a business or a food chain. It comprises processes of planning, decision-making, organizing, leading, controlling human resources, financial, physical, and information resources to reach goals efficiently and effectively. Food (supply) chain management encompasses all activities that move food from production to consumption, including production, storage, distribution, processing, packaging, retailing, and marketing. The management decisions made by the respective actors at the different stages of a chain have implications for other stages. They influence the types of food available and accessible, as well as the way they are produced and consumed, and thus the nutritional value of the food produced. However, and as indicated earlier, in this paper, we focus on governance and the process of governing food systems and chains, and the way different actors shape food systems, food chains and their development. Types of Agri-Food Chain Governance Arrangements Many studies on food chain governance have examined informal socio-cultural factors, governance structures and dynamics, and intra-chain relationships and the distribution of power (Milagrosa, 2007; Oro and Pritchard, 2011; Hattersley, 2013; Jordaan et al., 2014; Abel et al., 2019). Agri-food chains are unique and differentiated from other product chains largely due to the perishable nature of inventory and seasonality, which significantly affects the logistics of each stage in the food chain, and due to special consumer demands for food safety and quality (Kline et al., 2016). The whole chain faces both general risks and unique vulnerabilities because of the limited shelf life of food, and variability in quality and availability of raw materials (Stone and Rahimifard, 2018). Several studies adopted a wider perspective on food system governance, including the role of the institutional environment (Tallontire et al., 2011; Arato et al., 2017; Guéneau, 2018). Arato et al. (2017) adapted the Rural Web analysis, which has been elaborated by Van der Ploeg and Marsden (2008) as an approach to sustainable rural development, to the analysis of food chain governance. The strength of this wider approach is that the interconnections between six different dimensions including sustainability, novelty production, endogeneity, social capital, new institutional arrangement, and the governance of markets are explicitly considered. This in turn facilitates more encompassing strategies for the integration of small producers into local, regional, national, and international markets while simultaneously enhancing rural livelihoods

(Arato et al., 2017). Tallontire et al. (2011) and Guéneau (2018) suggest that the interplay between actors who are not directly involved in the chain may have important influence on governance, and that this should be considered (an example of this is the emergence of Private Sustainability Initiatives through roundtables, steering councils, and other multi-stakeholder platforms). Agri-food chains have food quality and safety characteristics that can contribute to credibility and consumer acceptance. Examples are food safety, healthy and nutritional food, authenticity, sustainable production processes and Fair Trade (Gachukia, 2015). Third party certification helps to guarantee these requirements (Gachukia, 2015).
It also enhances risk management and fosters collaboration among food chain actors (Leat and Revoredo-Giha, 2013). The emergence of Alternative Food Networks (AFNs), such as communitysupported agriculture, farmer's markets, producer and consumer cooperatives, regional and local food hubs, is expected to improve both environmental and socio-economic aspects of food provisioning in terms of rural development, consumers' needs, and sustainable modes of production (Renting and Marsden, 2003; Knickel et al., 2008; Berti and Mulligan, 2016; Bui et al., 2019; Sureau et al., 2019). AFNs are generally perceived as coexisting with and in opposition to mainstream food chains characterized by industrialization and standardization. Priorities of AFNs are different in terms of supporting diversity, de-concentration in the food sector, and reconnecting food to socio-cultural and physical territorial contexts (Bui et al., 2019). In view of our focus on Sub-Saharan Africa (SSA), smallholder inclusion and rural livelihoods are key dimensions in a meaningful assessment of governance arrangements. AFNs are characterized by collective action and they play an important role in integrating smallholders into high quality, high value food markets (Knickel et al., 2008; Yang et al., 2018). Likewise, the inclusive supply chain model helps address the challenges of integrating the poor in value chains (FAO, 2014). Through horizontal coordination, smaller food chain actors perform collective actions to reduce difference in power between actors and lower transaction costs (FAO, 2014). Inclusive business is a powerful way of helping drive economic opportunities for small-scale farmers, local and small agribusinesses, and the rural unemployed who would otherwise be left behind (Achterbosch et al., 2014). Ouma et al. (2017) suggested that horizontal integration of smallholder pig producers in Uganda into collectives helps improve their bargaining power and reduce transaction costs. Knickel et al. (2008) also demonstrated that European farmers benefit from collective action due to the growing power of retailers and the pressure resulting from the decline of producer prices and agricultural subsidies. Ros-Tonen et al. (2015) add that inclusive food chain collaboration also fosters adaptive learning and empowerment processes related to smallholder productivity and market integration. Based on the above, we can summarize the range of objectives that can relate to alternative food chain governance arrangements.

Agriculture and Climate Change

This is a nascent issue area of inter-organizational activity driven by improvements in knowledge about the linkages between agricultural production and a changing climate. The increasing production of bioenergy from agricultural products is also a key linkage. Key international organizations active in this field are the UN Framework Convention on Climate Change (UNFCC), the United Nations Environmental Programme (UNEP), FAO and IFPRI; the focus of work is transition to sustainable and low-carbon forms of agriculture production, including adaptation and mitigation strategies. Climate crises continue to aggravate because the path of global agricultural development has been narrowly focused on increased productivity rather than on a more holistic integration of Natural Resource Management with food and nutritional security, therefore a system-oriented approach is preferable because it can address the difficult

issues associated with the complexity of food and other production systems in different ecologies, locations, and cultures. The best mode of addressing climate change impacts is a collaboration between governments to develop and improve local, national, and international policy frameworks that accelerate the enhancement of climate adaptation, and create inclusive, climate resilient communities and investment in local, and indigenous initiatives that enhance and promote nature-based solutions, not forgetting to leverage Indigenous knowledge. Globally, natural resources used for water, energy, and food are under increasing pressure, population growth is increasing consumption stretching towards the planet's ecological boundaries. Climate change exacerbates the pressure on all three interdependent resources, intensifying the risk of insecurity and the significance of interdependencies, and increases vulnerabilities especially in developing countries. Understanding and managing the linkages among these resources is essential for formulating policies that will build more resilient and adaptable societies.

Billions of people live in countries affected by fragility. In fragile and conflict-affected situations (FCAS), fundamental human needs go unsatisfied: women are unsafe, children are malnourished and not in school, youth lack opportunities to build their livelihoods and communities are divided and insecure. Absolute poverty is increasingly concentrated in FCAS: by 2030, two-thirds of all poor people could be living in fragile situations. Fragility holds back development. Fragile countries have consistently lagged other developing countries in achieving the targets of the Millennium Development Goals (MDGs). This shows that without peace, sustainable development stands no chance. Cordaid is convinced that fragility needs to be tackled if we want to help millions of children and youth, women and men escape poverty and live decent lives in safety. Fragility also needs to be addressed because in a world of global interdependencies unstable countries and areas with increasing inequality may undermine global peace and security. The Sustainable Development Goals (SDGs) adopted at the UN Special Summit in September 2015 seeks to address this issue by including SDG 16: "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels." The UN Food and Agriculture Organization (FAO) describes regions where fragility is persistent as areas "in protracted crisis". These areas are characterized by recurrent natural disasters and/or conflict, persistent food crisis, a breakdown of livelihoods and insufficient institutional capacity to respond to the various crises. The Committee of World Food Security (CFS) states that countries facing such chronic crises must be considered a special category, requiring context- specific interventions by the development community.

Institutional Characteristics of the Global Governance of Food Security

The issue areas identified does not automatically represent an accepted consensus among scholars and practitioners regarding how best to dissect global food security governance. Indeed, disagreement among states, international organizations, civil society, and scholars over the optimal governance of food security is a ubiquitous feature of this policy field (Uvin 1994; Paarlberg 2002). However, this list provides a stylized reference point to the key issues areas where international organization activity is most focused in terms of information gathering, policymaking and action in the field. As such, the analysis offered below, which is limited to analyzing inter-organizational relations related to the global governance of food security, admittedly does not capture the full gamut of interactions and dynamics that also include transnational- and global-scale politics of food security; relations of states, civil society organization, private actors and citizens receive secondary treatment here. Yet these seven issue areas are analytically helpful in that they aid in revealing patterns and trends of inter-organizational relations within global food

security governance. This section outlines the general inter-organizational structure in this policy. This provides context for the next section which delves into the dynamics of inter-organizational relationships. The first pattern is that each issue area involves a cluster of international organizations with differentiated mandates, design and capacities. With respect to mandates there is a range of international organizations with very specific food security-related mandates such as the FAO, WFP and IFAD; the UNFCC (i.e., reduce global CO2 emissions). International organizations range from: large and complex formal inter-state organizations such as the FAO and WHO; treaty-based organizations such as the OHCHR, WTO and UNFCC; specialized agencies such as the WFP; research-driven organizations such as the CGIAR and IFPRI; financial resource provisioning organization such as the World Bank, IFAD, ADB and AFDB; and inter-organizational coordination platforms such as the HLTF and SCNFS. A list of relevant organizations is provided tabulated below:

List of International Organizations Active in the Global Governance of Food Security

Name	Type	Relevant Issue Area
Food and Agriculture Organization of the United Nations (FAO)	Formal international organization	Nutrition; Agricultural Production; Agricultural Trade; Food Safety; Human Right to Food; Agriculture and Development; Agriculture and Climate Change
World Food Programme of the United Nations (WFP)	International agency (program-based)	Nutrition
International Fund for Agricultural Development (IFAD)	International financial institutions	Agriculture and Development
International Food Policy Research Institute (IFPRI)	International agency (research-based)	Nutrition, Agriculture and Development
World Health Organization (WHO)	Formal international organization	Nutrition; Food Safety
World Trade Organization (WTO)	Treaty-based international organization	Agricultural Trade; Food Safety
Office of the High Commissioner for Human Rights (OHCHR)	Treaty-based international organization	Human Right to Food
UN High Level Task Force on the Global Food Security Crisis (HLTF)	Informal network of formal international organizations	Nutrition; Agricultural Production; Agricultural Trade;

		Food Safety; Human Right to Food; Agriculture and Development; Agriculture and Climate Change
UN Committee for World Food Security	Formal transnational deliberative body	Nutrition; Agricultural Production; Human Right to Food; Agriculture and Development; Agriculture and Climate Change

Institutional form, similarly, to mandates, is diverse in the global governance of food security. The design of individual international organizations varies in terms of the decision-making procedures, which includes one country-one vote in UN institutions (e.g., FAO, WHO), consensus-based decision-making among member states at the WTO, or combinations of delegated authority to executive heads and to subset of member states in the form of executive boards/councils (e.g., World Bank, IFAD, WFP, CGIAR, OHCHR, HLTF, OECD). Organizations like the FAO, WHO and World Bank have large secretariats that employ thousands of international civil servants.

In sharp contrast, inter-agency platforms such as the HLTF and SCNFS or informal organizations such as the G20 do not have secretariats; instead, these function as fluid networks of international and national governmental officials (Margulis 2012). Institutional design is both present and absent in the global governance of food security. The so-called UN food institutions the FAO, WFP, and IFAD – were once a set of nested institutions under the FAO; today these three international organizations are autonomous from another (Shaw 2007).

Similarly, the CGIAR and IFPRI have a long been associated with the World Bank; the World Bank has historically been a highly influential presence in the direct governance of CGIAR and continues to be a significant donor (IFPRI is one of fifteen Research Center nested under the CGIAR). The other general pattern is that many of the international organizations are part of the UN system (e.g., FAO, WFP, IFAD, WHO, UNEP, HLTF, SCNFS, etc.). However, these UN bodies are not nested in a hierarchal manner nor functionally specialized. For example, the FAO, WFP, IFAD and WHO are independent agencies. The HLTF and SCNFS, are horizontal networks with participation based on cooperation rather than a specialized division of labour (Margulis 2009).

Institutional capacities defined here as the range and depth of resources (i.e., financial, human, and political), and specialized knowledge and practices that international organizations deploy to achieve their goals and objectives are highly differentiated across issue areas. Agricultural trade, food safety and the human right to food are highly legalized spheres and therefore involve international organizations with rulemaking and enforcement capacity. In turn, this requires international organizations such as the WTO and OHCHR to possess specialized legal and technical knowledge and delegated authority to implement and enforce international rules. In comparison, the issue areas of nutrition, agricultural production and agricultural development involve specialized technical knowledge (e.g., human health, plant science and economic development), however, financial resources here are paramount to success in the field (e.g., feeding of large number of peoples, plant breeding, delivering agricultural extension services to rural communities, etc.). Specialized technical knowledge and financial resources are crucial, for example, to

the work of the WFP, WHO and World Bank. Institutional capacities are preconditioned to a significant extent by individual institutional mandates, form and design; however, the international political context is also a key factor as international organizations that are supported by powerful principles are more likely than not to better financed and delegated supranational decision-making authority (Hawkins et al. 2006). For example, the World Bank, which is highly supported by the US, boasts far more financial and human resources than the FAO in the field of rural development. The clustering of institutions across the seven issue areas of global food security governance results in varied configurations of institutional capacities. However, because such clusters are not generally organized to operate as collective units, the range of institutional capacities are not necessarily "pooled" in a rationalistic or planned manner. Instead, the collection of institutional capacities in a cluster these may be coordinated or synergistic while in other cases work at cross-purposes or in isolation.

Research Methods and Data Collection Strategy

Selected CSO's and agricultural value chain actors were engaged to develop the lists of people to interview, questionnaires to be administered to informants, and documents to review. The documents that had been created during evaluation periods, including Meetings, monitoring reports, drafted strategy documents, statements on negotiations, budgets, updates, and final reports were sorted during research engagements with these agencies and policy making departments. In selecting people to be interviewed, I chose a gender-balanced array of people who represented different CSO's, stakeholders, policy makers, governments, value chains, regions, and as well as randomly interviewing people to get lay views on policy frameworks. Some selected individuals from outside the COS'S who have had key positions in the humanitarian sector were interviewed as a focused group, and as key informants. Such individuals had useful perspectives on the effectiveness of the policies and what might help it to improve the ability of this research results to contribute to the afore-mentioned goals of the research. About thirty people were selected and interviewed, however, five people participated in interviews that last approximately one hour to effectively address the questions devised. Interviews were recorded and cross checked with my own notes taken during the interviews; informants were assured that no quotes will be attributed to them, and none of the recordings will be shared. To improve the relevance of the discourse, scholars of public policy must recognize the positive and normative assumptions behind the most common arguments related to evidence-based policy and acknowledge that the 'sides of the debate' are, within limits, mostly intellectually compatible.

Three approaches were used: Insights, Locally Led, and Physical Literature for the policy content analysis that enabled me to compare food policy objectives and content across sectors. This helped identify policy contents that fostered positive incentives for, climate adaptation, mitigation, food security and nutrition within the food supply or indicate points of incoherence, content relevant to food supply, food security and nutrition policy documents were first extracted, and analysed policy content with respect to stated policy objectives, informed by the OECD policy coherence framework (OECD 2016), to identify the ways in which policy objectives and activities in the relevant economic policy documents supported or undermined global food security and nutrition policy objectives. In the case of trade, investment and industry policy, the research augmented the assessment of policy coherence related to objectives and content with a review of the literature that identifies impacts from these economic policy sectors on global food security and nutrition outcomes and policy space. This aided the identification of policy incoherence, since these economic policies tend not to explicitly mention global food security.

Interviews

These were designed to explore the nature of food policies incoherence in relation to global food security and nutrition, thus policymaker beliefs and frames used to inform the development of the policies which might help explain the policy (in)coherence between global food security and nutrition policy objectives and actions related to the food supply on the one hand, and economic policy objectives and actions on the other. Interviews were designed to explore the nature of climate and food policies incoherence in relation to global food security and nutrition, thus policymaker beliefs and frames used to inform the development of the policies which might help explain the policy (in)coherence between global food security and nutrition policy objectives and actions related to the food supply on the one hand, and economic policy objectives and actions on the other. Interview schedules were based on policy analysis frameworks (Bennett and Howlett 1992; Shiffman and Smith 2007; Reich and Balarajan 2012) and the OECD policy coherence framework (OECD 2016). The interviews asked about: ✓ Influential actors ✓ Policy processes ✓ Policy priorities ✓ Policy context framing of food security and nutrition ✓ Opportunities to improve coherence.

Policy Content Review

I searched government websites for relevant policies using relevant sectors as search terms, together with the words 'policy', 'strategy' and 'action plan', to identify further policies through cross-references in policy documents, based on the literature and global recommendations regarding: ✓ Best-practice, global food security and nutrition policy ✓ Policy Negotiations ✓ The implications of international economic agreements on food security.

Research Location and Strategy

In choosing the research areas for studying food chain governance arrangements, attention was paid to ensure diversity:

Lead actor/initiator (civil society organizations, farmers association, processor, retailer). The cases are led by a range of food chain actors that play vital roles in food chain functions from production, processing, distribution to consumption, policy formulation and governance. Particular attention was paid to fostering healthy and nutritious food products. The cases comprise food production and marketing activities related to maize, legumes, traditional leafy vegetables, fruits, street fresh foods. Local consumption and consumers are covered as well as questions related to the empowerment of small and middle-sized farms, processors, and retailers.

Coverage in terms of geography, food chain governance arrangements, institutional, economic, environmental, and social conditions: In terms of geographical locations, the 4 countries cover a wide spectrum of food systems and contexts. The various geographies for the research allowed unique situational cross-examination, exchange and learning as well as answering specific questions about food system governance, technology, policy frameworks, consumer choices and preferences. Innovativeness of the initiative and learning potential: Each case study focuses on reconnecting sustainable food production with (urban) food consumption, healthy diets, and the related local food system challenges. All case studies are driven by practice partners, with researchers being in an accompanying, facilitating role.

Indigenous local knowledge and expertise; space for experimentation, innovation, and transformation; application of new knowledge, co-learning, and the formation of new, collective insights. During scheduled meetings, focus group discussions were carried out. Guidelines and a checklist were developed and shared to provide background information on the study and to ensure the comparability of the data collected. Guidelines and checklist related to the key products for the region, the processes and actors involved in the value chain, product and geographical mapping, and food system governance related information. The focus groups in each region included researchers, social entrepreneurs, farmers, consumers, food businesses and policy makers as key stakeholders. Where gaps remained, additional data was obtained through a smaller number of online calls (due to limited resources in place during the study period).

Research Findings and Results

Based on the structured interviews with various actors, including researchers, social entrepreneurs, farmers, activists, businesses and policy makers, and the focus group discussions, the collected data were synthesized to capture relevant information about food chain governance objectives, challenges, and opportunities. The key question is, how far the food system changes proposed by key actors in the 4 countries can be corroborated using the assessment framework. To start with, challenges and opportunities are compared with envisaged change approaches proposed to Food Chain Governance in the research areas. I compared the food chain governance improvements proposed by local and national actors with the criteria contained in the assessment framework. In a nutshell, the proposed improvements by local and national actors in response to the challenges they are confronted with, and their governance objectives mostly correspond to the indicators contained in the assessment framework. Relating governance structures did not raise concerns in the proposed approaches in the research locations: Socio-cultural factors (informal), non-market mechanisms (quality standards and initiatives), and multi-stakeholder platforms' (public campaigns on communication about healthy food and nutritious dietary patterns, platform on sustainable agri-food system) have not been reflected by local and national food system actors. Deductions made from the focus group discussions and key informants (selected local, national, international, and global actors) calls for more stakeholder engagements to include all actors in policy

formulations to cub disconnections and irregularities hindering food systems governance from making the impacts that is needed, ways to address these in more transparent and equitable ways, and to a piloting of potential improvements.

Research Location

The research was conducted in 4 countries: Ghana (Bono Region which is the food basket of Ghana), South Africa (Durban high food insecurity issues in that region), United States (Newark-New Jersey which is dominated by low income level dwellers with land scarcity for urban farming), and the Netherlands (The world's second largest agricultural exporter, the Dutch government is very proactive about agricultural development and local climate governance). I interviewed stakeholders from all levels, and they exhibited strong interactions between food insecurity and biodiversity. I identified four approaches that reflected alternative discourses for how to achieve global food security: Smallholder commercialization (10 stakeholders), agroecology and resilience (10 stakeholders), Smallholder economy and equity (5 stakeholders), and Market liberalization (5 stakeholders). My research study indicated four different approaches to ensure food security while also paying attention to biodiversity conservation: commercialization of smallholder farmers (a technological-economic discourse), agroecology and resilience (a social-ecological discourse), local economy and equity (a social-economic discourse), and market liberalization (a macroeconomic neoliberal discourse).

Ensuring food security is a central aspect of the sustainable development goals (UN, 2015) and of the development agenda of the African Union (FAO, 2012; African Union Commission, 2015). The World Food Summit defined food security as "a condition that exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life" (WFS, 1996). In the context of this study, we conceptualized food security as universal access to sufficient, safe, and culturally acceptable food, without negative effects on biodiversity. Here, we included the issue of biodiversity because food security and biodiversity goals are strongly interdependent (Chappell and LaValle, 2011), and thus approaches that address food security could either reinforce or impede achieving the goal of biodiversity conservation (Fischer et al., 2014). Hence, our study sought to uncover how approaches to ensuring food security could also affect biodiversity conservation. Universally, the goal of food security is widely agreed upon, uninterruptedly ensuring the availability and accessibility of food to all people. However, the approaches to achieve this goal remain deeply contested (Shilomboleni, 2017). Current literature indicates two influential but opposing approaches: a green revolution and commercialization approach versus a food sovereignty and social-ecological resilience approach (McKeon, 2015; Wittman et al., 2016). The green revolution approach has become prominent since the beginning of the new millennium, supported by major corporations and humanitarian organizations such as the Rockefeller Foundation and the Bill and Melinda Gates Foundation who established the Alliance for a Green Revolution in Africa (Blaustein, 2018; Shilomboleni, 2017). The approach aimed to achieve food security through increasing crop output per unit area, a transformation from subsistence to commercial agriculture, and the adoption of hybrids and genetically modified crops (DeVries and Toenniessen, 2001; Rockefeller Foundation, 2006; Blaustein, 2018). This approach focuses on the supply of agricultural technology and extension services, arguing that efficiency gains can be achieved through technology adoption by farmers and improved access to inputs such as crop breeds, irrigation technology and fertilizers, and output markets (Toenniessen et al., 2008). Despite considerable success in transforming rural economies in Asia and Latin America (Dawson et al.,

2016), important downsides of the green revolution approach have been, for instance, greater income inequality, high costs of inputs, community conflicts and environmental degradation and biodiversity loss (Shiva, 2011; Amir, 2013).

Initially, the green revolution approach had not been successful in Africa, primarily due to its incompatibility with local cultures and ecological conditions (Dawson et al., 2016). However, it has once again gained prominence due to infrastructural development (Dawson et al., 2016; Ejeta, 2010), institutional support such as through the Alliance for a Green Revolution (Bill and Melinda Gates Foundation, 2017), the need to produce more food for a growing population (Shilomboleni, 2017), and the belief of African governments in yield increases as a panacea for food security (Africa Development Bank, 2014).

An alternative to this corporate based neoliberal approach builds on the discourse of socially inclusive, sustainable, and biodiverse systems to ensure food security. This is often captured by the concept of food sovereignty, which focuses on the right of local people to determine what to produce and consume, values local experiences and local control of resources and food systems and seeks to work with nature through diversified farming systems (Nyéléni Declaration, 2007). The food sovereignty approach is most prominently supported by civil society organizations such as La Via Campesina or the Alliance for Food Sovereignty in Africa (La Via Campesina, 2013; Alliance for Food Sovereignty in Africa, 2014). Inclusive decision making involving diverse stakeholders is integral to the food sovereignty approach (Shilomboleni, 2017). Despite its social-ecological focus, the food sovereignty approach has been criticized because it poorly considers the pressures stemming from exponential human population growth (Shilomboleni, 2017). While these two opposing approaches dominate food security discourses, additional, slightly different framings also exist. For instance, especially in Africa, some policies specifically favor agricultural commercialization (NEPAD, 2003). This overlaps with a green revolution framing but is subtly different because it specifically aims for the efficient production of marketable crops based on the principles of comparative cost advantages.

In addition, an agricultural commercialization approach sees markets as a source of agricultural transformation, whereas the green revolution approach often considers the state as a key agent of agricultural transformation (including providing training and advice on the choice of crops, inputs and production methods). In contrast, an agricultural commercialization approach views farmers (including smallholders) as critical agents, who make production decisions based on cost efficiency and contract extension services as required (Van Den Ban and Hawkins, 1996). Similarly, a resilience framing can be identified as distinct from a food sovereignty framing. This approach typically takes a complex adaptive systems perspective, emphasizing feedback, slow drivers of systems behaviour, and emergent system dynamics resulting from self-organization (Fischer et al., 2015).

The above discussion thus shows three different potential pathways towards food security, which could be seen as four separate and independent approaches: the green revolution, food sovereignty, commercialization, and resilience approaches. These three approaches differ in how to achieve food security, particularly regarding issues such as food production methods, the role of biodiversity, marketing, and governance. Making these different pathways with their specific discourses and different levels of policy and institutional support explicit is, in turn, crucial to successfully navigate contradictions and to collectively work towards sustainable ways of achieving food security. In addition, understanding who supports which approach gives an understanding of current power relations around food systems, making

explicit which aims and goals different system actors pursue, and hence, allowing for the identification of promising and widely acceptable interventions.

Here, the extent to which different food security discourses are invoked by different stakeholders was examined. The countries selected for the research and stakeholders' engagements have or has done of these: 1. Has highly food insecure situations. 2. Have engaged various approaches to overcome food insecurity or help other countries over same. 3. Is characterized by high rates of biodiversity loss driven among others, by population growth, deforestation, and climate change.

These countries could be considered as essential case study areas because of growing food insecurity and frequent changes in approaches designed to address the problem of food insecurity locally, regionally, nationally, internationally to create global impact. Different approaches were adopted sequentially, following various political and economic changes (e.g., from command-and-control policies to capitalist policy, and recently to a developmental state policy that puts the state at the centre of ensuring food security), but several approaches to food security currently co-exist. Under the present Developmental State development paradigm, policy goals include increasing the production and productivity of commercial crops, smallholder transformation through increasing incomes and market integration, sustainable management of resources, and protection of rural communities from natural disasters and market risks. These approaches have been embedded in various policy frameworks, including the Comprehensive Africa Agricultural Development Program (NEPAD, 2003), the Climate Resilient Green Economy (CRGE, 2011) and Growth and Transformation Plans (MOFED, 2010).

This research also delineated existing discourses on food security, while paying particular attention to the different roles ascribed to biodiversity conservation in these discourses: (1) identified and characterize different approaches to food security pursued by stakeholders from local to national levels; (2) examined the rationale and narratives behind these approaches; and (3) identified ways to bridge gaps between the different discourses, so that meaningful communication among stakeholders is possible. In addition to its contribution to the research dimensions, this thesis has global relevance based on its provision of insights on issues of global interest that have only been scarcely treated to date. This research also shows how existing global food security discourses influence smallholder dominated rural landscapes in practice, and how different framings around food security influence environmental resources.

These general findings are likely to be of relevance not only to the purpose of this research but to many sectors. Below is the Framework: Ideas for Food System Governance Arrangements

Idea	Opposition	Index
System-based problem framing	To deal with interlinked issues, drivers, and feedback loops	Beyond one dimensional problem definition Feed-back mechanisms Integrative narrative Room for reflexivity
Adaptability	To respond flexibly to inherent uncertainties and volatility in non-linear systems	Monitoring systems Decentralization and self Organisation Flexibility Learning while doing

Boundary-spanning structures	To organise connectivity across boundaries of sub-systems involved	Interactions across levels and sectors Spanning siloed governance structures Public-private partnerships
Transformative capacity	To overcome path dependencies and create adequate conditions to foster structural change	Addressing path dependencies and lock-ins Leadership Resources Political will
Inclusiveness	To involve actors who are affected by the problem and the proposed policies	Involvement of marginalized voices Social differentiation amongst participants Involvement of local communities and networks

Conclusion

In recent years, the position and functions of governance has gained attention from food security researchers and scholars. Despite admitting governance issues, current knowledge of food security governance is preferably battered. This research results are a systematic review of the literature that will give precision in the debates on governance role in addressing food insecurity. The fusion spins encompassing intermittent units: ✓ identifying governance as an obstacle and a remedy to food security ✓ non-performance of present existing institutional designs. ✓ the advent of novel actors at the frontline ✓ calls for coherency and coordination across multiple scales ✓ variation and conflict of ideas calls for the allocation of sufficient resources ✓ the integration of democratic values in food security governance. Debatably, wide spreading percentage of the food security governance literature is attributed to Platonist governance outlook Aggregating this body of literature with unorthodox governance outlooks in ensuing research could enhance contemporary mastery of food security governance. Approaching food security as a 'tough problem' could provide valuable insights in this respect. Also, considering food security governance as a research field could make significant impact by engaging in further factual probe of present-day governance programs and planning, explicitly at sub-national levels. Global governance is marked by a participatory turn, this implies that there are increasing numbers of global governance processes in operation to develop processes and mechanisms that will enhance the participation of non-state actors in governance and policy making processes. Participation in governance processes has become an intriguing site of investigation for scholars and researchers.

The outcomes are always the development of a growing body of literature analysing diverse aspects of increased participation, calls for evidence-based policy making are increasing evident in global food security policy processes, and beyond. For example, the follow up and review process for the Sustainable Development Goals (SDGs) aim to be "rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable and disaggregated" (UN General Assembly, 2015, para. 74). Governance work seeks to clarify the political nature of a problem, identify

the primary issues, and engages all relevant stakeholders to seek and drive goals to achieve workable solutions: this process is problem-driven, context-specific, and people-centric. FAO operates and functions at all levels of governance, national, regional, and global to improve capacities for effective and collective action and solves diverse and complex problems: ending hunger, malnutrition, achieve food security and eradicate all forms of poverty globally. A strong coordination of food security responses between the global, national, and regional levels is paramount for food security governance. Global governance of food security facilitates debate, convergence of views and coordination of actions to improve food security at all levels: regional, national, and global. Coherence and convergence are essential and groundbreaking elements among policies and programs of nations, donor agencies and stakeholders when addressing the root causes of hunger and, the recognition of the human rights dimensions of food security and nutrition. These are paramount in the sort for substantial and rapid progress towards global food security.

The global food system is organized according to the principles of efficiency, productivity, and profitability. Concerns about safety, social justice, local and regional development, and national sovereignty are only important as far as they do not become a categorical threat to the reproduction of labour, and to the conditions of accumulation (Desmarais 2007; Koc 2009; McMichael 2005; Patel 2007). As some of the critics of the modern food system argue, many of the chronic or periodic problems that are associated with the food system, such as the farm crisis, hunger and malnutrition, and obesity epidemic, are not anomalies but are reproduced by structures and institutions of the modern food system (Lang, Barling and Craher 2009; Lang and Heasman 2004; Nestle 2002). Food security emerged as a discourse during the accumulation crisis in mid 1970s. While it reflected the international recognition of the need for cooperation to address humanitarian crises that condemned part of the world population to poverty and hunger, it also defined the conditions of food provisioning and addressing causes of the problems, priorities of action, and the role of institutional actors in seeking solutions to food insecurity. Its perplexity has reflected shifting priorities in the global economy and the contested nature of food provisioning in market economies. The food security discourse was effective in underlining shortages in this process and offering policy solutions to improve availability, accessibility, and effective utility of food. The most significant shortcoming of the concept, however, has been its lack of a critical focus on the food system and of the absence of an analytical approach to explain how food insecurity has been created by everyday practices, structures, and institutions of the modern food system. Many observers such as Albritton (2009) have argued that the capitalist economy has not only been incapable of addressing food security, but by its very nature has been the source of food insecurity. Nevertheless, food security has served as an effective discourse for both legitimizing market relations and disciplining the public by giving the impression that food security can be achieved within the capitalist agri-food system, while at the same time ensuring compliance of subordinate populations with the threat of food insecurity. As Patel (2009) states the concept of food security ignores discussing the social control of the food system (665). Food security discourse identifies problem of food provisioning as mostly a matter of availability and accessibility. It does not provide any critical inquiry on ownership of means of production, access to commons (such as land, water, seeds) and ignores the concentration of decision-making process on conditions of food production and access to food in the hands of a few corporations.

Food security rhymes a noble objective but inherently, it implies that food insecurity is the norm and food security is the ideal by identifying lack of optimum conditions such as in production, distribution, and utilization, as problems. There is also a bleaker side to the food security discourse. Through aid and philanthropic programs, poverty and food insecurity are contained to a level that does not threaten the

stability of political regimes around the world. This containment also serves as a disciplining tool. Like the prison system, persistence of islands of hunger and food insecurity creates a threat for the rest of the population with hunger, causing people to feel grateful for what they have and securing their compliance. Since the mid-1970s, the period in which the food security discourse emerged as an international priority, the world has suffered one of the worse assaults on social citizenship rights that resulted in the deterioration of the conditions of access to healthy food for ever larger segments of the global population. As a result of the neo-liberal restructuring, around a billion people remained without access to means of livelihood to produce their own food or did not have sufficient income to purchase it in the marketplace. Another billion, who had to look for cheap processed foods to feed themselves, suffered serious health problems. As the global economy is going through another major accumulation crisis in early 2000s, we can expect ever-widening segments of the world population to suffer food insecurity while the gap between the rich and the poor gets wider. One thing is certain: a more sustainable, equitable and healthy food system cannot happen in isolation. The emerging food sovereignty movement is connecting farmers, workers, and eaters in the effort to work towards a better food system.

The assessment framework elaborated in this thesis seeks to solidify the diversity, sustainability, resilience, and connectivity of food systems and improving food value chain governance procedures that significantly 1. promote capacity building amongst food aggregators and vendors 2. create more efficient market linkages for healthy food, and 3. encourages rural, urban, and peri-urban poor navigate their feeding habits toward a healthier pattern. I could relate three key aspects in preliminary framework test: 1. Context-specific policies and programmes relevant to sustainable food systems and food supply chains governance are of significance. The essential indicators I selected include changes in new regulations in sustainable food systems development, food policies and initiatives on environmental sustainability and social inclusion, local food initiatives and practices relating to food safety, quality and nutrition, and investments in agri-food sector infrastructure, such as storage facilities, processing Units, transport facilities and wholesale markets. Lack of requisite storage facilities, transportation and road infrastructure greatly affects smallholder farmers in a significant number of African nations, creating hindrances to sell their products at fair market prices and limits reaching markets and consumers. Food safety control is anticipated to protect consumers by initiating a monitoring system that reduces chemical and microbiological contamination and enables the addition of micronutrients into foods during processing. For the time being, mandatory labelling and standards can lessen detrimental food availability in the food supply chain. An inclusive dialogue and nutrition strategy at various government levels can guarantee food production, distribution, and consumption in a satisfactory manner and aid to enhance nutrition. 2. The index concerning governance structure modifications fix has been highlighted. Suppliers are empowered along agriculture value chain and their proficiencies are advanced when there are switches in capacity building for food suppliers (farmers, processor, and retailers), such as refined utilization of facts conveying, more substantial tutelage activities, and a good connection of farmers to direct markets. Also, supermarkets and local food vendors play vital roles in delivering more nutritious and fresh local food at affordable prices to consumers. 3. A mound of indicators consolidate multi-stakeholder collaboration, cooperatives, and associations, and platforms on sustainable food system. Universally, it is admitted that farmer cooperatives, and partnership networks enable smallholder farmers to have secure bargaining power at markets while large-scale public education on nutrition and mass media campaigns can enhance consumers' nutrition awareness and influence stakeholder platform, e.g., making nutritious food more accessible in public procurement, and farm to school programs like school gardens for more provisioning

of nutritious foods, can facilitate accessibility to healthy food. Moreso, effective outreach is crucial, for example mass media campaigns, NGOs, governments, engage to phase out advertising and promotion of unhealthy foods, especially to children and adolescents. Accordingly, enhanced nutrition awareness among actors along a food supply chain can motivate them to maximize nutrition entering the food chain. Using the assessment framework, I had a better understanding of present governance arrangements, conflicting goals, disconnects and tensions, and support their refinement.

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