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Reflexive Governance for Food Security: The Example of School Feeding in Brazil

1. Introduction

During the last decade, the unfolding of a “New Food Equation” (Morgan and Sonnino, 2010) has created an imperative for researchers and policy makers to address food security on new grounds. In a global context of food price hikes and volatility, shortages of basic commodities, increased rates of obesity and nutrition-related diseases and social unrest, the old, narrow view of food insecurity as a problem of under-production by subsistence farmers in the developing South has been broadened to include both under- and over-consumption in rich and poor countries alike (Ashe and Sonnino, 2013). As a result, an increasing number of scholars are demanding a more systemic approach to food security that embraces the entire ecology of the food system (see, for example, Misselhorn et al., 2012)– or, as Lang (2010: 95) states, “all factor(s) in all diet-related ill health, not just hunger”.

Thus far, food security policies have largely failed to address the problem systematically. Mirroring a strong and unwarranted polarization of the scholarly and political debate, measures implemented on the ground to address the challenge of food security tend to focus on either production *or* consumption. Specifically, global institutions have been directing intervention at the supply end of the food system – mostly through initiatives that promote trade liberalization and support large-scale agricultural productivity (Jarosz, 2011). At the local level,

in turn, a growing sensitivity to the pressures of the New Food Equation is leading regional and urban governments to intervene on the demand side through integrative mechanisms (such as food charters, plans and policy councils) that aim to enhance citizens' access to healthy food (Sonnino, 2009a) by raising its profile across multiple policy agendas (e.g., transport, land-use planning, waste management, environmental sustainability and community development).

An emerging body of literature suggests that a real reframing of food security strategies will ultimately depend on the capacity to integrate action at different governance scales. Indeed, many agree that place-based solutions to food security are crucial to address the context-specific needs of different communities (Lang et al., 2009; Marsden and Sonnino, 2012). At the same time, however, scholars also point to the need for supportive higher-level governance structures that facilitate and sustain change (Friedmann, 2007; Goodman et al., 2011). Paralleling this emphasis on the need to create responsive multi-level governance frameworks, recent literature also stresses the importance of political initiatives that (re-) connect the demand and supply ends of the food system (Lang and Barling, 2012; Marsden and Sonnino, 2012).

This paper aims to contribute to progress this debate through a focus on Brazil, a country that managed to achieve the first Millennium Development Goal of reducing poverty and malnutrition by half six years ahead of the 2015 target. As we will discuss in the paper, central to this success has been an effort, over the last two decades, to embed food security policies into a “reflexive governance” context that facilitates learning, adaptation and collaboration between stakeholders at different scales and stages of the food system. The paper specifically focuses on the example of school feeding as a system that “holds the

potential to catalyze the broader political and systemic changes needed to redress food insecurity beyond the intermediate term” (Ashe and Sonnino, 2013: 1021). Based on an in-depth analysis of key legislation and policy documents¹ that have, over time, redefined the goals and functioning of school food, the analysis provides important insights into the potential of intervention contexts where social actors are encouraged to reconsider their assumptions and practices in response to the constantly changing dynamics of food insecurity.

2. Rethinking Food Security: Reflexive Governance as an Alternative Framework

The concept of “reflexive governance” rests on the fundamental assumption that the risks, unpredictability and uncertainties of modern life raise the need for governance approaches that are informed by self- and social questioning -- i.e., reflexivity (Edwards et al., 2002). Central to this argument is the emphasis placed on “relational” (as opposed to hierarchical or horizontal) learning processes, in which the elements that contribute to the construction of meaning derive their significance from their reciprocal interrelationship. The assumption here is that, in a governance system that “simultaneously encompasses and helps constitute both subject and object” (Stirling, 2006: 229),

¹ Since the analysis aimed to reconstruct changes in the national policy discourse on school feeding and food security, rather than individual views and interpretations of them, interviews have not been performed. Data were collected from all official legislative and policy documents (including directives, minutes and resolutions) that have been released by institutional and policy actors in Brazil since the 1950s. The analysis focused in particular on the stated objectives of these documents and on the institutional/governance mechanisms identified to meet those objectives. To explore the impacts of key policies and legislation, we have also gathered data provided by national bodies in charge of statistics. If and when relevant, we relied on secondary empirical and analytical material from the Brazilian academic literature to facilitate cross verification from two or more sources (triangulation).

social actors and organizations (as opposed to individuals) are encouraged to continuously “scrutinise and reconsider their underlying assumptions, institutional arrangements and practices” (Hendriks and Grin 2007: 333) to learn from each other and, ultimately, to identify collective solutions to shared social problems.

Some scholars have recently argued that “reflexive governance” is a promising framework to address the dynamics of the “New Food Equation”. Urbanization, a persistent financial crisis, widening socio-economic inequalities, the juxtaposition of hunger and obesity, and the continuous emergence of ecological pressures on the food system (e.g., decreased water and soil availability and very high levels of food losses and waste) raise the need for novel forms of “connectivity” between food producers and consumers and between rural and urban areas (Sonnino, 2009a). As even FAO (2011) has recently acknowledged, the future for food and nutrition security lies in the creation of an “integrated” system – or, as Marsden and Sonnino (2012: 428) state, “a new counter-paradigm of (urban and rural) place-based strategies”.

From a food security perspective, what emerges here is the need for more systemic approaches that overcome the conventional polarization of the debate around two main narratives. The first, which is commonly known as “productivism”, emerged out of the FAO’s early emphasis on “increasing food production, particularly in the developing countries, stabilizing food supplies, using the food surpluses of developed countries constructively and creatively, creating world and national food reserves, stimulating world agricultural trade [and] negotiating international commodity agreements” (Shaw, 2007: 283). In the current context of increasing population numbers and growing competition over

land and other resources, the main concern for the proponents of this approach is the efficiency of the production process (Rosin, 2013), which has recently triggered debates about “sustainable intensification” in agriculture (see Collette et al., 2011; Pretty et al., 2011).

The productivist position has been widely criticized by another narrative that constructs food insecurity as fundamentally a problem of lack of physical, financial and cultural access to nutritious food. In this perspective, as Sage (2013) summarizes, food security raises questions about distribution, the ecological costs of production systems (see Feldman and Biggs, 2012) and the continued expansion of the “nutrition transition” -- an expression that broadly refers to the increase in the amount of food consumed (and to changes in its nutritional quality) brought about by an increase in income (UNEP, 2012).

Based on these differences in the interpretation of the food security problem, two main types of intervention have been proposed. For productivists, scientific and technological innovation is crucial to enhance agricultural productivity. In the UK, for example, the Royal Society (2009) has extolled the potential of a range of technologies (including advanced biotechnology, improved conventional practices and low-input methods) to mitigate potential food shortages. Demand-led approaches to food security, in contrast, criticize the tendency to privilege “technological solutions over more place-based technologies and knowledge systems” (Marsden, 2012: 142; see also Hinrichs, 2013). The IAASTAD’s report on agricultural knowledge, science and technology, for example, advocates policies that support the revitalization of traditional knowledge and the democratization of technology (Kneafsey et al., 2013).

In synthesis, then, the two approaches differ in the identification of the primary target for food security policies. Productivists prioritize intervention at the supply end of the food system. In their view, wealthier countries need to produce more food not just for domestic consumption but also for supply (through trade and aid) to poorer countries (see also Dibden et al., 2013; Rosin, 2013). Access-based approaches, by contrast, rely on ideas of “right-to-food” (Mac Millan and Dowler, 2012) and “food and nutrition security” (SCN, 2004) to highlight accessibility issues at the demand end of the food system and to criticize the tendency to emphasize economic objectives at the neglect of social and environmental outcomes (Yngve et al., 2009; Lang, 2010; Ploeg, 2010).

Some researchers have recently begun to emphasize the need to overcome this divide between production-led and consumption-led approaches to food security. As Fish et al. (2013) summarize, at the core of the current debate on food security is the question of whether and how the presumed need to expand production can be reconciled with wider limits to sustainability (see Lawrence et al., 2013; Sage, 2013). As some authors are beginning to point out, there is clearly a need for a new research and policy agenda that accounts for the “deeply interlocking nature of economic, social and environmental systems” (Misselhorn et al., 2012: 10).

The concept of “reflexive governance” has recently been proposed as a promising framework to design and deliver this kind of agenda. In general, two main approaches have been adopted to theorize the concept and functioning of “reflexive governance”. The “transition theory” approach focuses on the attributes of specific governance frameworks that facilitate adaptation to constantly changing contexts (Hendriks and Grin, 2007). Under this approach, there are two

different degrees of reflexivity: “first order” reflexivity is the adaptation to external pressures created by the unintended consequences of modernization – e.g., the Green Revolution in agriculture and its associated socio-technical regimes (Feindt, 2012); “second order” reflexivity entails a reflection on the structures and systems that produce and reproduce those unintended consequences – in a few words, it entails deliberate agency (Stirling, 2006). In practice, then, the shift from first to second order processes of reflexivity occurs when adaptation and responses “extend beyond cognitive frames (facts) to evaluative frames” (Marsden, 2013: 131), which facilitate the emergence of increasingly complex political and social devices that allow for a constant re-framing of sustainable development practices.

The second main approach to reflexive governance emphasizes the role of “operational learning” and focuses on the conditions for harnessing and embedding collective capacities in social institutions and organizations. As Lenoble and De Schutter (2010) explain, three models of reflexive governance are envisioned here: a “relational-collaborative” model, in which dialogue, deliberation and participation are emphasized to devise effective coordination mechanisms and institutional structures; a “pragmatic” model, which stresses participation in deliberative forums where different mechanisms are compared and evaluated; and a “genetic” model where actors are represented in the governance system and form an identity “comprising both a reconstructed relationship with the past (reflectability) and an anticipated relationship with the future (destinability)” (Vincent-Jones and Mullen, 2010: 162).

Notwithstanding these differences, all theories on reflexive governance share an emphasis on the role of dialogue, collective action and collaboration in

addressing social dilemmas. In simple terms, reflexive governance is about the central role of social learning as a mode of steering.

In agri-food studies, several authors have recently begun to explore the potential of social learning and wider reflexive governance frameworks for addressing contemporary food insecurities (Pereira and Ruysenaar, 2012). By encouraging food system actors to examine their positionality, it has been argued, reflexive governance can create innovative and more inclusive discursive arenas (Brunori et al., 2013) that open up spaces for the institutionalization of socio-technical niches and alternative food practices (Grisa, 2010; Nascimento, 2012; Marsden, 2013).

So far, however, these arguments have been framed mostly in theoretical terms. Not much has been written about the concrete potential of reflexive governance in addressing the two most pressing issues that have recently been raised in the literature: the need for harmonizing food security goals, activities and interventions at different governance scales; and the importance of devising a systemic and integrated approach to food security that calibrates the demand for, and supply of, healthy food.

School food is a promising intervention context to explore the scope for a systemic approach to food security that embraces different levels of governance and integrates a focus on production with concerns about consumption. Originally utilized (especially in low-income countries) as a tool to improve the nutritional status of children and promote school attendance and enrolment, cognitive development and gender balance (Bennett, 2003), school feeding policies today are also extolled for their potential to create markets for quality food producers. In wealthier countries like Scotland and Italy, for example, supportive meta-scale

governance contexts have encouraged public authorities to design tendering documents that attract small-scale producers of local, organic and Fairtrade products (Sonnino, 2009b and 2010). Likewise, in developing countries global initiatives such as the World Food Programme's *Home-Grown School Feeding* have attempted to expand the development effects of school food through an emphasis on its capacity to stimulate local agricultural production (Bundy et al., 2009; Espejo et al., 2009).

Research conducted so far, however, identifies the existence of a range of barriers to the design and implementation of reformative school feeding policies that deliver food security objectives. Most scholars refer to the inadequacy of the governance context, which tends to constrain local initiatives through a generalized emphasis on principles of free trade and cost reduction in public services (Morgan and Sonnino, 2008). In this context, Brazil offers a powerful example of creation of an alternative “enabling environment” that connects the producers and consumers of school food around the values and objectives of food security. Based on an in-depth analysis of key legislation and policy documents, in the next section we will describe the evolution of the food governance context in Brazil, a country where food insecurity is manifesting itself in all of its complexity and “bimodality” – that is, as a problem of both under- and over-consumption. In the last two decades, the country has experienced a steady improvement in its food security indicators and Human Development Index (PNUD, 2013) at the national level, but the regional variation is significant. Indeed, in the poorest regions of the North and Northeast, 15% of the population suffers from chronic malnutrition – against a national average of 7% (CONSEA, 2010). The figure is especially high amongst indigenous communities, where in 2009 as much as 26%

of children were malnourished (CONSEA, 2010). Moreover, enhanced access to processed foods, especially in cities, has caused a significant spread of malconsumption (Monteiro et al., 2010b; Levy et al., 2012), which has been responsible for a new series of food and nutrition security problems. Recent data suggest that about half of the Brazilian population is overweight and nearly 15% is obese (IBGE, 2010) and that the incidence of these problems is especially high amongst the communities that are also mostly at risk of hunger (Kac et al., 2012).

As part and consequence of a process of re-democratization that has taken place in the last two decades, the Brazilian State has actively intervened to address the complexity and unevenness of its food system. Central to its effort has been the adoption of a policy approach that emphasizes learning, collaboration and social inclusion. In this respect, Brazil provides an important context to begin to explore the nature, functioning and tangible outcomes of a reflexive governance approach to food security.

3. School Feeding and Food Security in Brazil: An Evolving Governance Context

3.1 The Early History

The earliest institutional responses to the problem of hunger and malnutrition in Brazil took place in the early 1940s with the creation of the *Serviço de Alimentação da Previdência Social* (SAPS - Social Security Food Service), which was controlled by the Ministry of Labour and strongly influenced by the ideas of

food activist Josué de Castro². SAPS' earliest initiatives included the creation of "popular restaurants"; the provision of a morning meal for workers' children (which laid the foundations for the school meal program); food aid for workers during long periods of illness; and the establishment of low-cost outlets for staple food.

At the time, the only school feeding initiatives existing in Brazil were administered by UNICEF, which, during the 1950s, began to deliver skimmed milk to 350,000 school children in eight States as part of its supplementary feeding initiatives (UNICEF 1986). The national government took its first action in 1955, when, following the launch of the First National Plan for Food and Nutrition, a public school food program was formally established (Vasconcelos, 2005). In this phase of developmentalism (1945-1964), in which industrialization and economic modernization were the main priorities for the federal government in Brazil, the goal was to centralize the school food system by connecting the existing regional initiatives to supply packed meals to schoolchildren with international food aid circuits. As stated by federal decree 37106/55, the newly created school food program aimed "to support, through all technical and financial means available, public and private institutions that are feeding school children; to adopt measures that improve the nutritional value of school lunches and make them more affordable; and to introduce measures to ensure that products are purchased at their source or through agreements with international food aid agencies". Soon after, the international aid program of the US Government '*Food for Peace*' took

² De Castro argued that hunger in Brazil was not determined by a shortage of natural resources, but by an unequal access to infrastructure such as dams, which, in the dry areas of the North, were controlled by regional elites. This argument still holds validity for some (see, for example, Foweraker, 2002), who identify uneven infrastructural development as the main motivation behind persistent and more widespread food insecurity in the Northern regions.

over the school feeding initiative from UNICEF and began to supply most of the food consumed in schools (IPC-IG, 2013).

In the late 1960s, international food aid in Brazil came to an end. Under the military dictatorship that governed the country (with successive regimes) between 1964 and 1984, the emphasis was on the development of national markets – especially for alternative energy sources such as ethanol from sugar cane (Gordon-Ashworth, 1980). As mentioned above, up until that point school lunches were based on donated milk and wheat-based products, which regional and local authorities complemented with vegetables and protein-rich foods. Industrialization in this period dramatically changed the composition of school lunches, which became based on convenience foods (soups, porridge, milk shakes, etc.) that provided an important market for the emerging national food processors.

Behind these changes there were new dynamics at play in the larger political and cultural context. Indeed, Brazil at the time was experiencing an “industrial-mercantile food regime” (Friedmann, 1993). A range of tax exemptions and credits for processed agricultural products were introduced to favour processors over growers (i.e., industry over agriculture). At the same time, domestic staple foods (such as rice) began to be displaced by export products (such as soy and meat) that were heavily subsidized to encourage capital investment in industrially-produced meals (Baer and Villela, 1980; Graham et al., 1987). As a result of these trends, Brazil was beginning to experience the effects of the “nutrition transition” – the shift from a plant-based diet to one that prioritizes dense and protein-based foods (Dixon, 2009) that were becoming increasingly accessible, both physically and financially, especially in urban areas.

The first public food procurement call for tendering, for example, requested the provision of “alimentos racionais” -- foods that are produced using flours enriched with maize, wheat, rice and soybeans (Coimbra et al., 1982).

In the 1970s, the Brazilian school feeding system entered a new phase. A National Study of Family Expenditures conducted in 1974-75 found that as much as 67% of the population was malnourished (IBGE, 1978). Data from the national office for statistics revealed that the constant increase in population numbers that had occurred since 1950 had not been paralleled by an increase in the production of staple foods such as rice, beans, corn and cassava. Wheat was indeed the only crop that had experienced a productivity increase as a result of the subsidies that the government had provided. In the context of the ‘industrial-mercantile’ food regime, a major change occurred in 1976, when the dictatorship integrated the school feeding service into the second *Programa Nacional de Alimentação e Nutrição* (PRONAN - Food and Nutrition National Program), which aimed to provide supplement food to vulnerable children in nurseries and to first year students of primary public schools. PRONAN II can be seen as the first *integrated* food policy model (Abreu, 1995), since it aimed to transversally connect various state agencies and ministries engaged in the various food and nutrition initiatives (Nehring and McKay, 2013) that were inherited from the previous food policy framework (Belik, 2012).

Alongside its emphasis on supplementary feeding, PRONAN II aimed to bring assistance to small farmers, re-localize food production and consumption, tackle the nutritional needs of specific sectors of the population, establish feeding programmes for workers, support research and staff training on nutrition (Cohn, 2009). It was under PRONAN II, and as a result of its emphasis on integration, that

what had until then been known as a “school feeding campaign” was consolidated into a *Programa Nacional de Alimentação Escolar* (PNAE - National School Feeding Program), launched in 1979.

By and large, however, PRONAN II failed to achieve its objectives. For instance, the first study on food security in the country, conducted in 2004 by the Brazilian Office for Geography and Statistics, revealed that 35% of households were still food insecure (IBGE, 2006) and that the school food market remained under the control of processing companies. Research conducted so far has identified a range of factors responsible for the failure of PRONAN II, including the lack of vertical and horizontal coordination, budget deficits and a clientelistic use of resources (Silva, 1995; de Arruda and de Arruda, 2007; Nehring and McKay, 2013). From a more structural perspective, at a time of dictatorship, there was no room for social inclusion and participation. On the supply side, the main priority was increasing production, especially of export crops such as soy and sugar cane, which were controlled (like the majority of land, labor and resources) by large landowners, supported by the federal government. On the demand side, rising inflation was raising the need to control prices to avoid social unrest. In the context of such a centralized and hierarchical governance context, PRONAN II remained largely disconnected from the increasingly urgent priorities of food security.

3.2 Relocalizing the school food system

The late 1980s marked the beginning of a period of profound social and political change in Brazil, with the start of a process of re-democratization. Social participation in public policies was a key feature of this new era (Abers, 2000;

Abramovay, 2011), as evidenced by the emergence of numerous forums that were specifically designed to enhance interaction between civil society and the state at different levels of governance (Silva and Schmitt, 2012). In 1989, Brazilians for the first time were allowed to elect directly their president. In this new democratic context, social movements, especially those linked to rural and land issues such as the Movement of the Landless (MST), which was fighting for agrarian reform, gained significant momentum and strength (Wolford, 2005; Schneider et al., 2010). For the first time, issues of access to land and agricultural credit were directly connected with issues of poverty and food security, and agribusiness became the target of heavy criticism. Indeed, although Brazil had by then become a major global exporter of primary products (especially soy), a significant portion of its population was still living in conditions of poverty and hunger (Silva et al., 2001).

Food security was at the heart of the campaign of the movement 'Citizenship Action Against Hunger and Poverty and for Life', led by Catholic sociologist Herbert de Souza, which mobilized thousands of people around the slogan "Hunger cannot wait" (Rocha, 2001; Pinto, 2005). After 1994, when Fernando Henrique Cardoso became president of the country, some of the requests made by this movement were turned into policy, with the establishment of assistance programs such as fuel and food stamps (Vasconcelos, 2005).

Meanwhile, the wider governance context in Brazil was also undergoing major changes. The so-called "Citizenship Constitution", introduced in 1988, created a framework to support "democratic developmentalism" – job security, rural retirement schemes and restrictions on foreign capital's access to public enterprises (Sallum Jr 1999 and 2003). In this new climate, the food arena

witnessed the emergence of numerous networks, strongly connected with wider social movements and, in some cases, supported by the Workers' Party, which mobilized academics, civil servants, family farmers, food and nutrition security advocates and agro-ecological interests (Schneider et al., 2010; Silva and Schmitt, 2012). Equally relevant for its implications on school feeding policies in this period was the start of a process of administrative and political decentralization. Under the new Constitution, municipalities were recognized as federal entities, with new responsibilities and legal powers (Triches and Schneider, 2010). Among other things, they were now in charge of elementary education, whereas secondary education was delegated to the states and the federal government remained in charge of higher education. School feeding was declared a universal social right for all elementary school children and was therefore devolved to municipal governments.

Up until that point, the design and management of public food contracts in Brazil had been very centralized. Suppliers were selected from a pool of industrial companies through public bidding, and standardized menus were utilized nationwide. As a consequence, small farmers and food enterprises who were not in the position of adhering to industrial food standards were excluded from participation in the school food market, which became dominated by large companies "capable of shipping cookies or sausages from the South East to the Amazon" (Maluf, 2009). However, the lack of adequate infrastructure and control implied that most of the times the food arrived at destination expired or unfit for human consumption (Triches and Schneider, 2010). In 1996, 10.4% of Brazilian children were still undernourished (Monteiro, 2003).

To address these problems, which were signaling a crisis in the domestic food system at a time when the country was entering its stage of macroeconomic stabilization, civil society organizations and pro-labor political parties began to construct food and nutrition security as a “public problem” (Silva and Schmitt, 2012) and to work towards the establishment of a national food and nutrition security system. In 1994, the first *Conferência Nacional de Segurança Alimentar* (CNSAN - National Conference for Food and Nutrition Security) was held and the *Conselho Nacional de Segurança Alimentar* (CONSEA - National Council for Food and Nutrition Security) was established. As a response to the negative effects of centralization that had dominated during the dictatorship era, it was decided that the education system in general, and the school food system in particular, needed devolution of power and responsibilities.

In 1994, Law 8913 transferred to municipal governments the responsibility of organizing daily menus, purchasing the ingredients, performing quality control and monitoring the use of resources through the operation of the *Conselhos de Alimentação Escolar* (CAEs - School Nutrition Councils), which were designed to enhance civil society participation in school food policies (Rocha, 2009). In addition to a government representative, these councils include two parent representatives, two teachers or school staff and two representatives from civil society organizations. Today, the CAEs are a key mechanism utilized to monitor the quality of school food, support the work of the nutritionists in the design of school menus, control the quality of the meals served in schools and oversee the bidding process and the budget statements provided by local authorities (Otsuki, 2011).

At the same time, the PNAE recommended giving priority to non-processed, local and seasonal foods as a means to reduce costs – all ideas that were reiterated in 1996, when a new ordinance (Portaria 291/96) explicitly discouraged the purchasing of industrial foods in schools and introduced new measures to enhance control over the quality of the service (Belik and Souza 2010). There were two key innovations introduced by this ordinance: funding for the school food service were allocated only to states, districts and municipalities where the CAEs were in operation; and local governments were required to complement the use of federal resources with an investment of local built, human, political and financial capital to guarantee the minimum standards of the program (Sidaner et al., 2013). In addition to these innovations, the PNAE also had begun to be centrally monitored and financially overseen by the *Fundo Nacional de Desenvolvimento da Educação* (FNDE - National Fund for the Development of Education), established in 1998, which is still in charge of regulating public food purchasing and nutritional guidelines across different levels and scales in the school food system.

In short, the innovations introduced during the democratization phase of the 1990s were designed, on the one hand, to eliminate administrative centralization, which, as the government had learned from the past, had been responsible for the failure of the service in many areas of the country. On the other hand, however, the new role assumed by the FNDE ensured that the federal government remained in charge of the general quality of the food served in schools.

3.3 Embedding School Feeding into a National Framework for Food Security

Food security policies in Brazil came to a turning point in 2003, after the election of President Lula, when the federal government decided to adopt the proposals of the *Zero Hunger* program (now part of a wider “Brazil without Poverty” campaign) developed by the Institute of Citizenship, which identified food security as a public policy goal of paramount importance to support social development in the country (Rocha et al., 2012; Leão and Maluf, 2012). *Zero Hunger* was designed and implemented around three main axes: a multilevel and multi-scale approach to the implementation of food and nutrition security policies; an emphasis on participation in the design of such policies -- which led, for example, to the inclusion of CONSEA as a key actor in the drafting of relevant legislation; and a partnership with both civil society and the private sector to create new food donation and distribution networks (Takagi, 2010). In this respect, one of the main innovations of this program was its conscious effort to bridge rural development and food security policies by forging new relationships between producers (small holder farmers) and consumers (schools and other public canteens such as popular restaurants).

In this context, school feeding was highlighted as a crucial tool to enhance citizens’ access to food, to create markets for small and medium-sized suppliers and to improve children’s food habits. The document explicitly states:

It is believed that increased technical support for the CAEs and local food producers will guarantee, at the same time, the provision of the freshest foods, a respect for the local cultural traditions and an improvement in farmers’ and agribusiness’ income (Silva et al., 2001).

On this basis, the PNAE was re-designed along a range of new lines. The financial investment in the program was increased to include nurseries and

indigenous schools in the system. At the same time, menus were redesigned to promote healthy eating habits, enhance the nutritional quality of the meals, respect the dietary and agricultural traditions of different regions and increase the provision of non-processed foods. Following the recommendations provided by the Second CNSAN (2004), the federal government continued to decentralize the school food service and to increase the budget for it. Financial resources from *Zero Hunger* were distributed and allocated by taking into account the socio-economic context of different municipalities and regions and the “vulnerability of their populations” – calculated on the basis of measurements developed by the Citizenship Institute that took into account the relationship between per capita income and the regional costs of living (Takagi et al., 2001; Silva et al., 2001). The levels of unemployment, the relationship between food prices and the purchasing power of local wages, and the number of people in need of emergency assistance were also taken into account in the formulation of school food policy strategies, which in 2003 were benefitting a total of 881,000 children across 166,000 schools (Takagi, 2010).

In the following years, the PNAE continued to be reconfigured as an integrated system for food and nutrition security in two fundamental ways. First, funding for school food increased from around \$ 450 million in 2002 to \$ 1.9 billion in 2012, when the program reached a total of 45 million citizens. Second, as a result of the National Law on Food and Nutrition Security (Brazilian Government, 2006), issued in 2006, the PNAE became embedded in a new governance framework: the *Sistema Nacional de Segurança Alimentar e Nutricional* (SISAN - National System for Food and Nutrition Security), which is one of the main outcomes of the new participatory approach to social policies in

Brazil. Indeed, this framework was for the first time envisioned during the second CNSAN, when civil society organizations raised the need to integrate and give coherence to the multiplicity of food security strategies implemented by a range of governmental and non-governmental organizations (Nascimento, 2012).

FIGURE 1 ABOUT HERE

As described in Fig. 1, SISAN has three mutually interdependent governance arenas that facilitate an inter-sectoral, coordinated and participatory management of food security policies at the federal level (Brazilian Government, 2011). The CNSANs, which take place every four years, are responsible for identifying the national priorities for food and nutrition security. Participants include representatives from civil society and the public sector who are members of regional food and nutrition security councils, where, in advance of the national conference, a baseline document prepared and distributed by the CNSAN's organizing committee is discussed. During the CNSAN, participants are divided into working groups, based on their regional provenance or common interests, which again revisit the themes identified in the baseline document. After four days of discussion, each working group presents its motions and guidelines to the general assembly, which is in charge of the final conference declaration. It is important here to highlight that the CONSEA has made an effort to include representatives from vulnerable populations in the CNSANs through the approval of an internal regulation, introduced in 2007, which established that at least 20% of delegates should be chosen on the basis of their racial and ethnic origins. At the last two national conferences, however, this target had not yet been achieved at (CONSEA, 2007 and 2011).

The priorities identified by the CNSAN are then discussed in the second main arena of SISAN: the *Conselho Nacional de Segurança Alimentar* (CONSEA- National Council for Food Security), an advisory body that includes 19 representatives from the federal government and 38 from civil society and that is in charge of facilitating communication between all institutions and organizations engaged with food security. CONSEA, which is financially and technically supported by the federal government and meets at least every four months, is formed by a plenary committee, a president, a general secretary, an executive secretary and a series of thematic committees (which include a coordinator, a civil society representative and a technical secretary). If and when needed, these committees are entitled to form larger working groups and to invite external experts.

The directives formulated by CONSEA inform the National Food and Nutrition Security Plans, which are designed, implemented and monitored in the third governance arena of SISAN: the *Câmara Interministerial de Segurança Alimentar e Nutricional* (CAISAN – the Inter-ministerial Chamber for Food and Nutrition Security), a government body that includes representatives from 19 relevant ministries and secretariats and is in charge of turning the proposals of CONSEA into policy.

States and municipalities are encouraged to join the SISAN through the establishment of their own food and nutrition security councils and of inter-secretariat chambers (Brazilian Government, 2010a). The first mechanism (which can be utilized to attract federal funding) has been very successful; in 2010, all states had a food security council and 23 of them had issued or were preparing their own food and nutrition security law. However, inter-secretariat chambers,

which are not directly eligible for federal funding, had been established in only three states (Brazilian Government, 2010b).

The most important change in the PNAE occurred in 2009, when the government passed a groundbreaking law that redefined the goals of school feeding by linking it directly to rural development (Brazilian Government, 2009b). The origins of this legislation can be traced back to the recommendations provided by the Working Group on School Feeding, established by CONSEA in 2004 (CONSEA, 2008), and subsequently backed up by the Brazilian Forum on Sovereignty and Food Security and by family farming organizations, which since the 1990s were fighting for fairer markets for their products. The 2009 law identifies six main goals for the school feeding system:

- to increase consumption of healthy, safe and appropriate food that respects traditional diets and contributes to the development and improved performance of students;
- to promote a healthy lifestyle through food and nutritional education;
- to ensure universal school attendance;
- to foster community involvement in the provision of healthy and adequate school food by the national, regional and municipal authorities;
- to provide incentives for the purchasing of food products from family farmers, rural enterprises and traditional native communities; and
- to enhance the food and nutritional security of school children, especially the socially vulnerable (Brazilian Government, 2009a).

Specifically, the law establishes that a minimum of 30% of the federal budget must be used to purchase, through a separate bidding process, diversified and seasonal products from family farmers, selecting, whenever possible, agrarian

settlement producers and traditional communities, organic or agro-ecological foods, family farming associations, informal family farming groups, and the family farming associations that have the largest number of producer-members located in the municipality, the region, the State and the country – in this order of priority (Brazilian Government, 2013).

To take part in the tendering process, farmers must be formally or informally organized in groups and must be in possession of the DAP (a declaration of belonging to the *Programa Nacional de Fortalecimento da Agricultura Familiar*, the National Program for Family Farming) or other state programs. Interestingly, in 2012 the overall amount of food that family farmers were allowed to sell to schools increased from a maximum value of R \$ 9,000 (US \$ 4,500) per DAP/year to R \$ 20,000 (US \$ 10,000) per DAP/year³ to enhance capacity to supply schools located in large metropolitan areas (IPC-IG, 2013).

With regard to nutritional issues, the law establishes that the state should provide at least 20% of the daily nutritional needs of school children (a figure that rises to 30% for children from vulnerable communities and to as much as 70% for children who spend most of the day at school) and it sets standards on the maximum amount of added sugar, fat and salt that is allowed. The menus are designed by professional nutritionists, who have recently been encouraged by a new resolution (Brazilian Government, 2013) to limit the use of canned food, meat, sweets, pre-prepared, pre-packaged and reconstituted or regenerated meals.

³ Originally, the total amount of food that individual farmers could sell to schools had been capped to prevent a monopoly of the market by larger farmers.

The most recent developments in the political context of school feeding in Brazil have further strengthened the decentralization of the system. By and large, this approach has been adopted as a response to the recommendations that emerged from the Third and Fourth CNSANs (in 2007 and 2011), which highlighted, respectively, the failure of efforts to achieve food security nationally and the need to create new forms of social participation, embedded in local agro-ecological systems and inclusive of ethnic communities, to address rising concerns about obesity in the Brazilian population. Under the new rules, municipalities are allowed to pay a premium of up to 30% to source healthier (i.e., organic and agro-ecological) products, preferably from suppliers located in the municipality. Again, reflexivity in Brazil is promoting policy adaptation – in this case, to the changing dynamics of malnutrition triggered by the New Food Equation.

4. Reflexive Governance for Food Security: An Analysis

Like many countries in the industrialized North⁴, Brazil had originally embedded its public food system into a procurement context that was informed and shaped by neo-liberal ideals of open competition, transparency, non-discrimination and cost-reduction. Reflecting an early emphasis on a productivist approach to food security, at the onset the Brazilian public food system was designed to support large-scale private companies and exclude small producers, as we described in our early history of school feeding initiatives. The publication of the National Study of Family Expenditures in 1974 uncovered the failure of conventional food security policies, and *Zero Hunger* marked the beginning of a

⁴ This is especially the case in the UK and the USA, as documented by Morgan and Sonnino, 2008; Sonnino, 2010; Poppendieck, 2010.

new era that has eventually placed Brazil at the forefront of the global fight against food insecurity. In addition to achieving in 2009 the Millennium Development Goal of halving extreme poverty (against the levels of 2001) (CAISAN, 2009), in the last decade the country has also significantly improved its national food security. As shown by the Brazilian Food Insecurity Scale (EBIA), between 2004 and 2009 the percentage of food insecure households decreased from 35 to 30% (IBGE, 2010). The incidence of underweight children under the age of five has also been reduced– from 5.6% in 1989 to 2.2% in 2007 (Monteiro et al., 2010a), and substantial improvements have been recorded in relation to infant mortality rates, school attendance levels and the general quality of rural livelihoods (Schneider and Niederle, 2010; Rocha et al., 2012).

The analysis of the evolution of the Brazilian school feeding system highlights the importance of two different but complementary strategies that have been used, over time, to embed the values of reflexive governance into the system and ultimately realize its food security potential. First, there has been a clear effort to create spaces of deliberation where policy-makers and civil society organizations can discuss, define and redefine their collective priorities for food and nutrition security. It is important to emphasize that there are some missing voices in these spaces of deliberation. As mentioned earlier, the CNSANs have not yet succeeded in strengthening participation from vulnerable ethnic communities. CONSEA has also been subject to criticism for its membership, which is dominated by highly educated and relatively wealthy individuals. Indeed, a study conducted in 2011 by the National Institute for Applied Economics (IPEA, 2012) found that 77% of CONSEA's members have at least a high school diploma and 64% of them have a monthly income well above the Brazilian average. Significantly, five of the

Northern states (the area of the country with the highest concentration of food insecure people) have no representation in CONSEA. As Burlandy (2011) explains, since 2003 there has been an attempt to broaden participation in the CONSEA by including representatives from other constituencies (such as fishermen, associations of citizens with special dietary needs and humanitarian organizations fighting against racism and social/gender inequalities). However, a recent study (de Moura and Monteiro, 2010b) found that the feedback that vulnerable communities have been receiving from their representatives is too often insufficient, especially for the non-organized sectors of civil society.

Much still needs to be done to combat the tendency to the “elitization of participation” in the deliberative spaces of Brazil (de Moura and Monteiro, 2010). Nevertheless, it is significant that the promulgation of the food security law, the inclusion of the right to food in the national constitution, the establishment of SISAN and the main school food policy innovations in Brazil have emerged only after the establishment of participatory governance arenas. As Kepple et al. (2012) point out, members of CONSEA are an essential source of feedback from the field for national decision-makers. Likewise, as described above, the CNSANs facilitate a regular bottom-up flow of information and feedback between the local and the national level, and this has been instrumental for creating an immediate awareness of the constantly new threats to food security (such as the recent rise of obesity levels) that have been emerging in Brazil.

If the creation of deliberative spaces has enabled the country to reduce the diversity and complexity of social problems associated with food security to a set of realizable and shared goals (that remain, however, open for negotiation between the federal government and the more organized segments of civil

society), the second main strategy adopted to maximize the food security potential of school food (i.e., the decentralization of the system) has created space for local flexibility. Indeed, throughout its recent history Brazil has steadily devolved both power and responsibilities to local school food actors in recognition of local needs and specificities and the multi-faceted dimension of the food security problem. As described earlier, over time municipal governments first, and subsequently even individual schools, have been allocated their own portions of the financial resources available on the basis of their specific socio-economic conditions and, consequently, of their peculiar food security priorities. Today, the school feeding system in Brazil is governed through three different models – and various combinations of them: a “municipality-centred” model, in which local governments are responsible for the management of the service; a “state-centred” model, where responsibility for the service falls under the Federal Department of Education; and a “school-centred” model, in which the meals are managed directly by the schools themselves.

As illustrated in figure 1, decentralization has also entailed a distribution of tasks and responsibilities across the state and civil society at multiple levels, which occurs mostly through the work of CONSEA and the CNSANs (Brazilian Government, 2006). This has facilitated the formation of a feedback loop between policy decisions, implementation, outcomes, change, innovation and redesign, which is considered as a core feature of reflexive governance (Brousseau et al., 2012). In this respect, Brazil is one of the earliest examples of implementation of the recommendations provided by both the Worldwide Action for Food Security and the most recent literature on food governance, which highlight the importance of the local scale in building capacity (Marzeda-Mlynarsk, 2011; Mendes, 2008).

These two governance mechanisms (i.e., the establishment of national spaces for deliberation on food security and the decentralization of the school feeding program) operate in tandem, with important complementary and synergistic effects. Indeed, while forums such as the CNSANs and the wider SISAN framework ensure that the values governing food security can only be defined and negotiated at the national level, decentralization in practice implies, amongst other things, that the qualities of the food to be served in schools are specified locally. Through an emphasis on seasonality, regional foods and traditional diets, the federal government has been encouraging local authorities to explore a range of strategies (such as, for example, the establishment of formal producer associations) that aim to include small-scale farmers in the school food market. This is not an attempt to exclude conventional suppliers, who are considered more reliable at times of crises (e.g., diseases, pests, extreme weather events) and to feed large cities – and, for these reasons, have always been kept involved in the system. Since PRONAN II, the over-arching goal has been to ensure that public food procurement in general, and school food in particular, address the needs of both consumers and producers, thereby delivering wider rural development benefits.

In synthesis, our analysis of Brazil highlights the importance of democratic participation in national food security policy formation and monitoring as well as the relevance of some degree of administrative and political decentralization. As exemplified by the evolution of its school feeding system, Brazil has actively worked to design a governance context that fosters constant iterations between actors located at different scales and stages of the food system. In its recent history, Brazil has devised and implemented a range of inclusive governance mechanisms (such as the CAEs) that continuously encourage key school food

system actors to adapt their frames, structures and patterns of action in ways that take into account alternative understandings of the problems (Marsden, 2013). A framework such as SISAN, in particular, provides identifiable arenas of deliberation where food producers and consumers, institutions and practitioners, scientists and policy-makers can share their experiences and negotiate their priorities. This approach has been instrumental in counteracting the effects of neo-liberalism, which, as several scholars have argued, makes individuals increasingly unable to negotiate on behalf of the collective with respect to social goods (Harvey, 2005; Gibson-Graham, 2006). More generally, democratic participation has been key to the design of a governance system that has the capacity to promptly respond to the constantly shifting priorities of food security that emerge on the ground.

Administrative and policy decentralization, on its part, has fostered experimentation and learning in Brazil – another crucial outcome of reflexivity. It is in fact at the local level that the relationships between food producers and the managers of the school food system (or, more broadly, between supply and demand) are negotiated and strengthened. A key factor in this respect is the mediation of collective bodies (such as the CAEs, producer organizations and municipal nutrition departments) that facilitate the integration of the different knowledge of producers (i.e., school food suppliers) and consumers (i.e., the schools) into a systemic framework for local development.

Not much research has yet been conducted on the local dimension of reflexive governance in Brazil. The few available data, however, continue to depict a very uneven picture for the country. A study conducted by the National Fund for Educational Development (FNDE, 2011) reveals that, although today there are as

many as 115 food products supplied by family farmers on the national school food market, the level of investment in small-scale production remains lower than the percentage of budget allocated for conventional products and it varies significantly between regions. Indeed, whereas in the wealthier South municipalities invested in 2010, 2011 and 2012 up to 27%, 36%, and 37% respectively of the federal budget in the purchasing of products from family farms, in the poorest areas of the country, such as the North and the Northeast, this percentage in 2012 was much lower – 22% and 23% respectively (IPC-IG 2013). According to the CAEs, it is impossible to ensure a regular supply of food from family farmers to meet the expectations and needs of the municipalities of the North and Northeast (Saraiva et al., 2013). In addition to the persistence of major infrastructural weaknesses (especially transportation) (Nehring and McKay, 2013), some municipalities are still struggling with the legacy of a procurement culture that prioritizes cost reduction. There are also barriers related to the difficulty of organizing menus around seasonality and planning production by family farmers (who often lack technical assistance), to the challenges raised by health legislation and to a general lack of communication between actors involved in the reform of the school food service (Siliprandi, et al. 2012, Triches and Schneider, 2010).

It is however important to note that a reflexive governance approach has created a context that has the capacity to address these weaknesses in at least one fundamental way: that is, through the presence of multiple and polycentric coordination nodes that ensure interdependence between different components and actors – a feature that is deemed to be crucial to facilitate the emergence of local innovations (Perez-Escamilla et al., 2012). Indeed, the FNDE has been

managing tensions related to external factors (“first order” reflexivity), such as changes in the federal procurement legislation or pressures from the food industry, by regulating the bidding process for family farmers and banning unhealthy foods (Brazilian Government, 2009 and 2013). At the municipal level, the guidelines provided by the FNDE are implemented by the nutrition departments, which directly engage with family farmers, cooperatives, conventional suppliers and other public agencies (Ação Fome Zero, 2011 and 2012). Finally, the double function of the CAEs (as both deliberative and overseeing bodies) helps to formalize the links between schools, nutritionists and the FNDE (Peixinho, 2013), which emerging evidence shows are crucial to enhance local sustainability (Belik and Chaim, 2009).

In sum, school food intervention in Brazil tells the story of the unfolding of an “enabling environment” of multi-level and cross-scale governance webs and coordination nodes, where the values and meanings of food security are defined collectively (at the national level) but are interpreted and applied in different ways (at the local level). As the state continues to reconfigure its relationships with food producers, civil society and the market, new relational learning processes are occurring and new needs are emerging on the ground. As we will argue in the conclusions, there are wider lessons to be drawn for both policy-makers and academics interested in understanding how and to what extent a reflexive governance framework can enhance food security.

5. Re-thinking Governance for Food Security: Some Conclusions

As we explained above, recent literature on food security is raising the need to reconfigure the wider governance context to ensure that local innovations become embedded into more supportive meta-scale frameworks. Indeed, these are considered crucial to facilitate integrated forms of intervention that embrace both the demand and the supply ends of the food system. The recent history of food security in Brazil represents an important step in this direction. In Brazil, an inclusive and, to some extent, decentralized governance context has indeed empowered new communities of food producers (i.e., family farmers who were previously excluded from mainstream markets) and consumers (i.e., the CAEs), who are working together to address their context-specific needs and to build capacity.

There are two important insights that emerge from the Brazilian experience and have wider relevance for current debates on governance for food security. First, reconnecting producers and consumers of nutritious food is a necessary but not in itself sufficient condition to enhance food security. Participation in the governance system should be further broadened in two directions. On the one hand, there is a need for mechanisms that ensure a more even geographical representation in the governance arena, taking into account the role that different cultural and educational frameworks can play in mediating citizenship's relationship with food security. In the case of Brazil, the participation of uneducated and poor people and of representatives from ethnic and racial minorities in deliberations on food security has been limited, and positive national statistics continue to hide significant regional imbalances. Monitoring systems such as the EBIA, which has been quite effective in exposing multiple levels of food insecurity risks as a basis for improved governance (Pérez-Escamilla, 2012),

should be more consistently applied at the micro-level to identify specific intervention areas. On the other hand, the story of Brazil also raises the need for integrating in the governance system other actors (processors, retailers, wholesalers, transporters) who have all too often been neglected by mainstream narratives on food security, with their narrow focus on the two ends of the food system. In Brazil, the tendency to link food security with rural development has led the government to neglect the urban sphere and food industry representatives, who, as Burlandy (2011) shows, have been progressively eliminated from the CONSEA. As a result, there has been a lack of policy emphasis on issues of food logistics and distribution (Zimmermann, 2011), which downplays the crucial function of infrastructure such as wholesale markets, farmers' markets, corners stores and food hubs in enhancing food security in the expanding urban areas (Sonnino et al., 2014).

Second, relational learning needs to be fostered not just across governance scales (vertically), but also between different communities of stakeholders engaged in the fight against food insecurity (horizontally). In Brazil, information flows mostly bottom-up, as described in relation to the functioning of the CNSANs and SISAN. To deal with regional disparities in food security performance, it would be useful for national governments to redress knowledge and feedback top-down – for example, through the establishment of formal mechanisms that ensure a regular flow of knowledge, people and ideas between national policy-makers, regions, municipalities and even neighborhoods. Much could be gained from the establishment of networks that disseminate best practice, facilitate knowledge-exchange and ultimately prevent the isolation of food system innovators. In the complex context of the New Food Equation, new spaces of solidarity between all

food system actors are crucial to support, scale-up and scale-out local innovations and ensure that alternative practices coalesce into a more coherent platform that can effectively address an increasingly uneven geography of food insecurity.

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