

**Understanding food systems' change:
the making and the practicing of the school food reform
in the city of Porto Alegre, Brazil**



Camilo E. Lozano

Propositions

1. While changes in public food procurement regulation and practices are fundamental in building more sustainable, healthy, secure and just school food systems, they are only one part of a complex process.
(this thesis)
2. In enacting school food system change the role of school food champions is as important as the role of dining ladies, cooks, dietitians and family farmers.
(this thesis)
3. As long as researchers are trained to see empirical cases as made of components, elements, and parts, the potential of multi- and transdisciplinary research will remain limited.
4. There is nothing wrong with Pareto's optimality theorem; the problem is that neoliberal markets cannot fairly redistribute wealth.
5. Food has the power to forge bridges between people of different cultures insofar settlers accept the invitation to dining.
6. The myth of a stateless economy came to an end with the rise of nationalistic populism.
7. Sustainable development goals are only inspirational.

Propositions belonging to the thesis entitled:

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Wageningen, 13 March 2019

**Understanding food systems' change: the making and the
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Glossary of Abbreviations

ANVISA	National Health Surveillance Agency
ASSP	The Swine Growers' Association of the Southern Region of Porto Alegre
CAE	School Feeding Council
CAISAN	Interministerial Chamber of Food and Nutritional Security
CEASA-RS	Wholesale market of the state of Rio Grande do Sul
CECANE	Collaboration Centre for School Feeding and Nutrition
CFN	Federal Council of Nutritionists
CNSAN	National Conferences for Food and Nutrition Security
CPF	Individual Taxpayer's ID
COOMAFITT	Family Farmers' Cooperative of Itati, Terra de Areia e Três Forquilhas
CONAB	National Food Supply Company
CONSEA	National Council on Food and Nutrition Security
COOPAN	Cooperative of agricultural production Nova Santa Rita
COSANS	Municipal Centre for Sustainable Food and Nutrition Security
DAP	Declaration of belonging to PRONAF
DMLU	Municipal Department of Urban Waste Management of Porto Alegre
ECOCITRUS	The Citrus Producers Cooperative of Vale do Caí
EMATER	Brazilian Technical Assistance and Rural Extension Agency
ESR	Early Stage Researcher
FAO	Food and Agriculture Organisation.
FNDE	National Fund for Educational Development
FF	Family farming/family farmer
FS	Food Security
FNS	Food and Nutrition Security
HGSF	Home Grown School Food
IBGE	Brazilian Institute of Geography and Statistics
LMICs	Low- and middle-income countries
LOSAN	National Law on Food and Nutritional Security
MAP	Ministry of Agriculture, Livestock and Food Supply
MDA	Ministry of Agrarian Development
MESA	Extraordinary Ministry of Food Security and Fight against Hunger
NFE	New Food Equation
MS	Ministry of Health
PAA	Food Acquisition Program
PGDR	Postgraduate Program in Rural Development of the Federal University Rio Grande do Sul, Brazil
PNAD	National Household Survey
PNAE	National School Feeding Programme of Brazil

PNSAN	National Plan for Food and Nutrition Security
LOSAN	National Policy on Food and Nutrition Security
POF	Family Budget Survey
PRONAF	National Programme to Strengthen Family Farming
PRONAN	National Food and Nutrition Programme
POA	City of Porto Alegre
PUREFOOD	Urban, peri-urban and regional food dynamics: toward an integrated and territorial approach to food
SIM	Food Safety Municipal Inspection Service
SIF	Food Safety Federal Inspection Service
SISVAN	Food and Nutrition Surveillance System
SMED	Municipal Secretary of Education
SMF	Municipal Secretary of Finance
SPF	School food programme
SPFP	Sustainable public food procurement
SISAN	National System for Food and Nutrition Security
UFRGS	Federal University of Rio Grande do Sul
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
ZH	Zero Hunger



Chapter one: Introduction

- 5 Conceptual orientation
- 6 The emergence of research goals, justification and thesis structure

Chapter one: Introduction

This research emerged within the Marie Curie founded project: *“Urban, peri urban and regional food dynamics: toward an integrated and territorial approach to food”* (PUREFOOD). This project aimed to generate knowledge and skills in the design and deliver of sustainable food strategies by: training a pool of Early Stage Researchers (ESRs) in the socioeconomic and environmental relations of place-base food systems; conducting research on these dynamics and, building knowledge-sharing networks amongst researchers, food entrepreneurs/companies, policy-makers, civil servants and members of civil society organisations.

PUREFOOD begins by arguing that such knowledge and interactions are needed to be able to counteract the pervasive and negative effects of industrialisation of food provisioning, standardisation of food production/processing practices and globalisation of food markets. In doing so, it contends that it is at community and territorial scales where the most promising responses to the pressures generated by these processes are found. The project grouped these responses in three categories or work packages: alternative food networks, urban food strategies and; public food procurement (Figure 1).



Figure 1 The integrated and territorial mode of governance in PUREFOOD
(Source: Wiskerke 2009)

In general, alternative food networks are initiatives that re-connect producers and consumers in collaborative provision arrangements while supporting environmental and social sustainability (e.g., short food supply chains, farmer's market, community supported agriculture, solidarity purchasing groups, etc). Urban food strategies shift from the private sphere towards the power of city as policy maker to nurture new linkages within different policy domains (planning, health, education, etc) and between urban-rural food provision systems (e.g., food charters). Creative food procurement entails the use of the power of the public plate to connect vulnerable consumers and producers in a provision framework with the capacity to generate multiple economic, social and environmental benefits (e.g., farm to school programmes). When taken together, they might constitute a territorial based governance arrangement that holds the capacity to pattern new constellation of symbolic and material relation of flow of food in more local, sustainable and democratic manner or alternative food geographies (Wiskerke, 2009).

In this context, PUREFOOD pointed out that in despite of finding this expression at empirical level, the role for different public, private and civic support strategies remained largely unexplored. Consequently, it linked 12 ESRs to study these phenomena in different contexts, including case studies in Italy, The Netherlands, Latvia, UK, Uganda and Brazil. In addition, all ESRs were provided with a PhD training programme enabling them to obtain a PhD degree at any of the participating universities in PUREFOOD. The situation of this research in the PUREFOOD programme is clear in its choice of site of research (Brazil) and the appreciation of the theme of research (school food reform) from different disciplinary and methodological approaches.

While other researchers separately focused on any one of these initiatives, this research sheds light on the interaction of these three responses in single case. In fact, although the starting point of the research was targeted public procurement of food for school services, over time – and perhaps inevitably – the context of my research led me to investigate these three responses in their entirety. Thus, the major contribution of this work towards PUREFOOD was a closer understanding of the interaction between state, civil society and markets in Brazil – a medium-income country with widespread problems of malnutrition and poverty in rural areas.

In addition to the stimuli of PUREFOOD in this research, there are personal filaments and experiences defining the whereabouts of this research. I am an agronomist who worked in rural development projects in Colombia for eight years. During this time, I worked with an NGO in a pilot project aiming to link campesinos to school meals in a medium sized city. Among many challenges the NGO faced when buying locally, those that often appeared were scale of production, irregular product quality and lack of adequate equipment for commercialisation. This pilot project came to an end after two years, recalling economic and logistical considerations. Thus, when I applied to the PUREFOOD position for

researching school feeding programmes in Brazil, I recognised a unique opportunity to systematically investigate a persistent nosiness I had had in my mind since the pilot project failed: what are the mechanisms that could enable municipalities to buy food from smallholder farmers from a long term perspective? As the reader of this work can quickly perceive, I decided to follow up on this topic, paying special attention to those actions leading to change and the interplay between the change and actions.

Conceptual orientation

Across the globe, school food reform represents a core objective of an integrated food and nutrition (security) strategy. In addition to traditional goals of alleviating short-term hunger, reducing effects of undernourishment and improving educational outputs, school meals can bring public health benefits, address malnutrition, and create more sustainable forms of rural development (Global Panel, 2015). In fact, after the 2007-8 food crises and disappointing results of traditional school food programmes to effectively reduce rates of stunting, wasting, and micronutrient deficiencies (Bhutta et al., 2013, Global Panel, 2015); national states, multilateral organisations and city governments increasingly designed school menus to support local agriculture or marginalised producers (smallholder and FFs) while meeting the objectives of public nutrition, FS and children education by enabling place-based social and economic relations between smaller scale producers and vulnerable consumers (Morgan and Sonnino, 2008, Morgan and Sonnino, 2010a, Sonnino, 2010, Triches and Schneider, 2010, Rocha et al., 2012, Schmitt et al., 2014) This is an approach that, in the context of low and middle income countries (LMICs), has been labelled “home-grown school feeding” (HGSF), social procurement, structured demand or institutional markets for FFs (Lozano et al., 2016)

Assessments in LMICs signal the capacity of this shift to generate multiple outcomes. At the supply side, for instance, cross-country studies show the ability of these initiatives to contribute to poverty alleviation, increments in productivity and early technological adoption through stable demand, formation of commercialisation-related competences, improvements in the quality of crops, and reinvestments in agriculture (Espejo et al., 2009, Devereux et al., 2010, WFP, 2015a). At the consumption side, scholars report that school food reform: provides access to adequate and diversified menus to food insecure populations; increases the availability of nutritious foods in nutrition-poor food environments; and promotes healthier eating habits (Belik and Chaim, 2009, Triches and Schneider, 2010). Likewise, non-discretionary and right-based school food initiatives reach and give universal access to food (Belik and Souza, 2010). In this sense, the school food reform holds the potential – and the merits – to redefine the field of food justice. It can address one prominent challenge in the construction of more sustainable food systems, i.e., “...discover arrangements that make society better without reinforcing inequalities” (Goodman et al., 2011 p, 31).

In this shift from traditional to new school food programmes, the state plays a central role. This is the reason why I use the term *reform* instead of employing the HGSF expression. The latter refers to the strategic role of food procurement to generate decentred agri-food economies, while the former sees the state as the legitimate author to regulate procurement, stimulate and steer economic development, re-distribute resources and guarantee social rights – including food and nutrition security (Schneider, 2016a). In this context, the current debate on the school food reform in LMICs focuses on three interrelated issues: public food procurement for social consumption, creation of markets with rural development purposes, and the potential of the school food reform to contribute to food and nutrition security.

In general, the first position discusses what kind of agri-food economy is (or ought to be) supported by different public food procurement strategies. The second starts from questioning whether school meal programmes may represent a viable market for smallholder farmers while supporting rural development policies. The third debate shifts the discussion of school meal programmes from tackling hunger and improving educational outcomes to addressing both modes of the FS crises (hunger and obesity). Together and normatively, these debates contend that the school food reform holds the potential to create multiple synergies between different components of the provision arrangement (and their relations) so as to influence the functioning of the wider food system to which they belong. A system that, as currently ordered, is responsible for both endangering the right of present and future generations to have access to adequate food, and making very difficult the emergence of more sustainable alternatives. This systemic crisis, as well as the three debates (conceptual and normative arguments) on school food reforms, are discussed in depth in **Chapter Two**.

The emergence of research goals, justification and thesis structure

As previously mentioned, PUREFOOD provided the site and theme of research. This, of course, was based on good working relationships between the University partners of PUREFOOD, in this case Wageningen University and The Federal University of Rio Grande do Sul (UFRGS). In that moment, Brazil happened to be an interesting case. At global level, it had become a prime example of successfully implementing innovative food and nutrition security programmes and actions.

In fact, the reforms of the National School Feeding Programme (Programa Nacional de Alimentação Escolar [PNAE]) have been fundamental in meeting the first United Nations Millennium Development Goal of reducing undernutrition by half in 2009 (six years ahead of the 2015 deadline). On one hand, school food is a constitutional right, providing universal access to school services to more than 24% of Brazilians in 5,560 municipalities and about 165,000 public schools. Full time students are entitled to a minimum of 70% of

the daily nutritional intake and part-time pupils receive at least 30%. In this context, families of low and very low incomes identify PNAE as the second most important state strategy (cash transfer being the first) that helps them improve their access to food (IBASE., 2008). On the other hand, in addition to the traditional goals of school food service, PNAE keenly seeks to interlink public health nutrition, rural development, and environmental objectives into the PNAE's core structure. This is since the end of 2009 when it enacted a new school food law requiring that sub-national units should procure at least 30% of federal resources from local FFs while giving preference to foods coming from agrarian settlements, agroecological producers, and collective FFs initiatives.

While my participation in PUREFOOD influenced the site of research, the core goals developed after recurrent immersion on the field, continuous literature review, internal conversations and supervisory meetings. Indeed, my interest in studying the nature of the school food reforms in Brazil became apparent after reviewing public food procurement literature, analysing policy documents and visiting some schools in the city of Porto Alegre. The literature repeatedly singularises that the neo-liberal procurement regime is largely accountable for preventing the use of public resources to directly connect artisanal food producers to school meals. Then, the question was how Brazil was able to remove this barrier. Of course, I could have jumped over this question by simply referring to the Brazilian literature explaining this phenomenon. Nevertheless, I was new in the field and convinced that studying the new law's history, development, key events, and so on was important because it could suffuse both the researcher and the research with the needed contextuality that necessarily influences present events and the narrative constructed upon them.

Nevertheless, could the study of changes in PNAE over time and socio-political context offer a compelling account to explain the nature of the school food reform? Well, once again, I encountered new literature and additional observations from my daily supervisor for whom making explicit the conceptual lenses through which events are studied is fundamental to inform the reader where he stands. This is to say that the nature of the school food reform involved more than presenting socio-historical particularities of how the new school food law came about; it also entails the questioning of how this can be conceptually explained.

These two questions are responded to in the **fourth chapter** of this thesis. It aims to build an understanding of the emergence of “reflexive governance”¹ environments in the

¹ What governance entails, how it is operationalised and this interpretation's pros and cons are examined in depth in the methodological section. But, in general terms, I do not use governance in the sense of new relations of the government, private sector and civil society, as governments are no longer thought to be the main governors. Governance, as it is conceptualised, refers to the broader process of intentional shaping, directing or influencing.

formation of food and nutrition security policies, programmes and actions. As a result, it is discussed that the school food reform in Brazil is embedded into a governance framework that facilitates learning, adaptation and collaboration between actors at different scales and stages of the school food system. Such governance framework is part and parcel of the construction of the National System for Food and Nutrition Security (Sistema Nacional de Segurança Alimentar e Nutricional [SISAN]). In this governance arena, the state and civil society actors formally interact to formulate policies, programmes and follow up mechanisms to ensure the right to adequate food. These findings are conceptually relevant as they tap into current discussions of rethinking FS governance. On one hand, scholars point out that the future for food and nutrition security will ultimately depend on the capacity to integrate actions – school food being one of them – at different scales to systematically respond to the challenges of the new food equation (Sonnino et al., 2014a). On the other hand, the chapter can be seen as a response to the demand of some authors to include alternative governance perspectives and arrangements into the research agenda of FS (e.g., Candel, 2014).

As to whether Chapter Four contributes towards filling some knowledge gaps in relation to FS governance, its discussion was also fundamental for the development of the research project. Indeed, it identified that the right to adequate food in Brazil is intrinsically related to the SISAN's capacity to promote **food practices** that are nutritionally, culturally, environmentally, economically and socially sustainable. Hence, the intervention framing shifted from availability or access to embracing food practices as the loci of action.

This major policy innovation is repeatedly ignored in specialised literature or in general country-based assessments. There is also a modest amount of writing on food practices, focusing mainly on consumption patterns (e.g., Fonte, 2013, Warde, 2013). From a methodological point of view, however, a focus on how a given practice surfaces, becomes normal or dissolves is a promising line of inquiry when *"...novelty in the form of "sustainability innovation" is promoted or introduced"* (Hinrichs, 2014 p, 149). Furthermore, when inciting change is the object of inquiry, practice lenses can shed light on what is possible and what really happens when governing actions mediate policy values and outcomes (Strengers and Maller, 2014). In this context, I began to examine the broader practice literature, directing attention to both how scholars operationalise practices, and what the governance of practices would look like.

Alongside the conceptual first encounters with the elements of practice, how they link, are arranged, organised, coordinated and governed, I experienced my first empirical immersions. Although many things were very interesting (e.g., quality of the service), what really captured my thoughts were three things: the way that dieticians designed school menus together with cooks, technicians in nutrition, school food councils and FFs; the sustainability profile and supply capacity of the FFs collective initiatives; and persistent

frictions between the nutrition and the public procurements, whereby the former sought to upscale the local provision of food and the latter continued to support large scale suppliers. With this in mind, I came back to deskwork and realised that what I was observing could be approached from the practice perspective point of view. This was because at the procurement department, public agents continued to routinely design public bids, while the nutrition department engaged in alternative ways of putting the new school food principles in practice. Family farmer cooperatives were caught in between, yet they adapted supply practices and procedures to the mixed messages of the city procurement approach.

It is precisely from the interaction between field experiences, abductive thinking and conceptual examinations that the second main goal of the thesis emerged and the analytical tool was devised *to gain insights into the dynamics of implementing school food policies*. In itself, the analytical tool is a novelty. It links reflexive governance and the governance of practices in a single frame by asserting that: policy meanings or strategy goals can be interactively constructed; operational knowledge is part and parcel of reflexive constructed meanings, but fundamental to transforming values into practice; and the emergence of alternative provision arrangements is, at least in part, the result of implementing a school food strategy where stakeholders intentionally select and link practice elements while coordinating or organising its interrelations.

The analytical device's conceptual roots are presented in **Chapter Three**, entitled *"Methodological reflections and research approach"*. Initially, this chapter discusses the overall methodological direction by locating this investigation within grounded 'constructivist' ontology and an interactionist epistemology. Before graphically presenting the heuristic tool, the reader will find key definitions of it, like governance, reflexive governance and the governance of practices. This chapter also explains the decision to choose Porto Alegre as the embedded case study, focusing on those governance nodes that have the power to influence, direct and coordinate multiple provision practices. At the demand side, they are the nutrition department, school food council, and public procurement office. At the supply side, five FFs' collective initiatives were selected among suppliers due to their sustainability profile. In the last section, the chapter explains how data was acquired and analysed.

I forewarn the reader that by adopting the lenses of reflexive governance and the governance of practices, I do not assume that they represent the core conceptual development upon which the thesis is constructed. In particular, I do not discuss the mental processes of people considering themselves in relation with the social context or presented scenarios. I also do not examine practices from its ontological loci (i.e., intersection between structure and agency) or dig into alternatives to the use of practice lenses to understanding change (e.g., transition theories). I simply and recursively use these concepts to understand the interplay between new policy values and what social actors (as opposed as individuals)

actually do when translating them into concrete school food strategies. In particular, I study the interplay between the three of them: new policy meanings, normalised school food provision strategies and emergent alternatives. This methodological option is threaded through both ends of the provision arrangement in Chapter Five (access) and Chapter Six (availability).

In general, **Chapters Five** and **Six** contend that changes in school food laws and procurement regulation can foster new relations between the city of Porto Alegre and school food suppliers, yet the formation of new forms of connectivity (out of which supply-demand links are only one set) is inherently linked to the ways in which municipal authorities and suppliers transform policy values “*into*” concrete provision strategies. I intentionally use this little word **into** to signify that this process is far from being static (like in conceptualisations of school meal programmes as structured demand), meaningless (like in value chain approaches in HGSF literature) or direct consumer-producer relation (like in local food system scholarly). On the contrary, transforming policy values **into** action is a dynamic process, entailing movement, change, adaptation; multiple connections - some shorter many mediated.

In particular, **Chapter Five** focuses its attention towards unfolding the little word “*into*” by looking at the answers to normalised governance practices when stakeholders, at the access side, seek to enact school food reform policies. In doing so, the chapter first describes in detail the city of Porto Alegre school food strategies during major school food policy reforms. They are: decentralisation, participation of civil society and the construction of markets for local FFs. Following this, the chapter analyses the ways in which stakeholders seek to induce changes in the school food service, its inner workings, coordination means as well as the (re)organisation of provision practices and practice arrangements bundles. It reveals the existence of governance specialised centres in which decisions at these places influence the accessibility (and interpretations) to practice elements, including particular meanings, competences and connective infrastructure. The chapter concludes with the implications for a school food strategy when the analysis of public procurement focuses on the governance of practices.

Chapter Six shifts the attention to the availability side. It studies the governance approaches of five FFs’ collective devices. It seeks to answer to the extent the new school food policy influences the emergence of alternative provision arrangements. The first part of the chapter reports on the broader context in which these associations emerge, supporting the argument that in the construction of the school market for FFs in the city of Porto Alegre, procurement and school food managers do not start from scratch. After this, the chapter operationalises the word *into* but from the FF perspective – that is, how collective intention becomes collective action. In other words, it does not examine access to institutional markets but the collective process of accessing them. The final section of the

chapter discusses the empirical work by comparing governance structures, processes and practices of the five FFs' collective cooperatives.

The dissertation concludes with **Chapter Seven**, presenting the major findings of this research project. It is divided in four sections. Initially, I reflect on the major contributions of this work in relation to the knowledge gaps examined in the conceptual chapter. Later, I expose some of the advantages to studying "the no longer missing middle" with the constructed analytical framework. In the third part, I reflect on the lessons learnt from the research process itself, including the rewards of single case study designs and the challenges of approaching the study from various conceptual narratives. Finally, I recommend avenues for future and ongoing research.



Chapter two: Major conceptual debates in the School Food Reform

- 15 Food crises and the strategic role of public procurement
- 23 Family farmers (ffs) and school food markets
- 31 Food security (fs) and school food

Chapter two: Major conceptual debates in the School Food Reform

School food programmes (SFPs) are often seen as a lasting solution for inadequate levels of access to food, particularly in highly vulnerable social groups. The earliest public responses to child undernutrition began in the first decade of the 20th century in Europe and the United States. In addition to providing access to school meals, they were considered to deliver four general human development goals: to increase school enrolment and attendance; to improve the nutritional status of children in schools; to improve children's cognitive or academic performance; and to alleviate short term hunger (Levinger, 1986). Over time, these core objectives have remained unchanged across countries where SFPs exist.

Yet, the policy orientation is not unconnected to the food environment and the influences of broader food systems in which SFPs operate. Indeed, the traditional goals of SFPs have been broadened to include sustainability², rural development, food justice concerns and food systems restructuring. Arguably, three interrelated debates are noteworthy in relation to the understanding of this phenomenon, namely food crises and the strategic role of public procurement; FFs and school food markets; and food security (FS) and food systems change. Although in the literature these conceptual lenses are individually employed as a starting point for discussing school food reform, it is only through their integrity that the Brazilian case can be holistically approached. This literature review includes what values agri-food based literature considers key aspects when critically approaching SFP.

Food Crises and the Strategic Role of Public Procurement

At the macro level, scholars contend that the everyday food crisis embodies long periods of continued contradictions and surfaces at multiple time-spaces. At the consumption side, the crisis materialises in figures of malnutrition³: 800 million people are hungry, 2 billion are deficient in essential vitamins or minerals, and 27-28% of all children in low income regions are estimated to be underweight or stunted. At the same time, 2 billion people are obese or overweight, while 36 million people perish due to a lack of food and 29 million

² Sustainability, as most notions relating to symbiotic relations between society and nature over time and space, is characterised, interpreted and conceptualised in different ways. For some it is procedural. It is a meta-objective for harmonising the contextual trade-offs of food systems around the three pillars of sustainable development: society, economy, and environment (e.g., Morgan and Sonnino, 2008). For others, sustainability represents an event. It is an agri-food economy simultaneously meeting multiple social, ecological and economic criteria (e.g., Lang and Barling, 2012). In the context of this thesis, however, I follow the HLPE (2014 p, 31) rationale since it brings the 'continuability' aspect of sustainability – that is "a sustainable food system is a food system that ensures FS and nutrition for all in such a way that the economic, social and environmental bases to generate FS and nutrition of future generations are not compromised".

³ The term malnutrition includes undernutrition, micronutrient deficiencies, overweight and obesity.

die because of diseases related to overconsumption; likewise, one third of global food production – or 1.3 billion tons of edible food – are wasted, representing four times the amount needed to feed the food-insecure population (FAO et al., 2014). Furthermore, chronic micronutrient deficiencies or ‘hidden hunger’ affects over two billion people worldwide (Burchi et al., 2011). Anaemia and wasting rates have remained unchanged over the last 20 years (WHO, 2014). Large contradictions at production side are also evident. Industrial farming practices alone cost the environment about USD 3 trillion per year (FAO, 2015). The amount of land dedicated to crop production (47%) is similar to those soils producing animal feed and biofuels (40%); likewise, there is an overspread degradation of soils of some 20% of global land, loss of crop diversity, ecosystem degradation and resource depletion, all these accompanying the large-scale production of manmade greenhouse gases which contribute substantially to climate change (Sonnino et al., 2014b)

Morgan and Sonnino (2010) argue that these figures are only the tip of the iceberg of the observable expression of the new food equation (NFE). In a global context, the NFE embodies recurrent food price hikes and volatility, shortages of basic commodities, increased rates of obesity and nutrition-related diseases and social unrest. Additionally, in the NFE, 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 cities and both under- and over-consumption in rich and poor countries alike (Sonnino et al., 2014a). Many scholars concur that the crisis is not only manifested, but also endemic to the inner workings of a consolidated agri-food order. Indeed, the crisis emerged in an agri-food economy enmeshed in free trade agreements, technological fixes, intensive crop monocultures, feedlots; whereas policy frameworks enable transnational food companies, trading boards, and supermarkets to exert and expand seller and buyer powers at the expenses of most of producers and consumers (Van der Ploeg, 2010).

Notwithstanding some degree of success of in terms of making available cheap commodities (at a slow pace), this food order carries substantial negative costs for the environment, social wellbeing, public health, and national capacity to set inclusive food policies (Carolan, 2013a, Monteiro et al., 2014). In addition, this configuration irreconcilably operates in juxtaposition with resource constraints and access to adequate food, as it actively co-produces the set of determinants (climate change, water scarcity, declining oil reserves, loss of biodiversity, land control, transition) that triggers food crises over time and space (Lang, 2010b). Hence, from a theoretical point of view, to say that there is a crisis is to say that the current organisation of the food system⁴ does not contribute to the fulfilment of all or most of the necessary practices required by society for reproduction.

⁴ Despite the fact that as agri-food economies interconnect and conform to a dominant globalised rule-governed structure or a *system*, throughout this thesis and following Lang et al. (2009), the term ‘food system’ refers to all the stages of food provision from producing, distributing, storing, processing, packaging, transporting, marketing, to consuming and disposing of food, as well as the contextual influences of inputs, outcomes and

At the global level, the NFE and its determinants call the attention of scholars, policy makers and practitioners to explore alternatives that can contribute to the fulfilment of food needs and wants without perpetuating the crisis. It is from this background that governments, civil society and agriculture have re-discovered the power of the public plate; namely food provided for public welfare programmes or public institutions such schools, hospitals, universities, armed forces, prisons, or other state-managed facilities (Morgan and Morley, 2014).

In fact, public food procurement it is seen as a policy instrument that can support transitions to sustainable development and fairer agri-food economies when interconnected and rooted in democratic institutions. On one hand, the state represents the legitimate social institution with the mandate to convene, regulate and steer pathways of development (Maluf, 1998). On the other hand, the state has the financial capacity to counterbalance the economic power of large agri-food enterprises (Morgan and Sonnino, 2008). In high-income countries, public procurement represents about 20% of GDP (USD 4,733 billion annually). In low- and middle-income countries (LMICs) the share is lower, but still substantial. In Brazil, for example, government procurement of goods and services in 2012 is worth about 13.8% of GDP, or about USD 292 billion (Ribeiro and Júnior, 2014).

In this context, the current academic debate on the public purchasing of food for consumption within schools focuses on what kind of economy is (or ought to be) supported. As Roberta Sonnino and Kevin Morgan have widely discussed, does public food procurement come to be a purely short term cost-saving strategy, which privilege few caterers and low-bid contracts? Or do public bodies want to focus on the broader potential impact of procurement in the field of public health nutrition, economic development, environmental integrity and social justice (the interrelated goals of sustainable development)?

In the first case and broadly speaking, the state aims to open provision of meals to private companies through procurement regulations which, based on competition premises, reduce tendering outputs to economic efficiency valuations (Morgan and Sonnino, 2008). This is to say that there is a realignment of buying and selling processes with the neoliberal system of rewards. Here, the assumption is that 'the competitive forces' deliver more benefits than any other policy mechanism. Such procurement repertoires, however, tend to favour suppliers able to meet cost-effective operations and economies of scale (Wiskerke, 2009). In turn, these suppliers are oftentimes part and parcel of contextual forces that lead to crisis. Furthermore, when governments disregard the nourishment demands of pupils and the social needs of artisanal producers, they extensively purchase food in the global

outputs, all of them intrinsically connected with public policies, institutions and private interests at multiple levels and scales.

commodity market, actively contributing to the social and economic marginalisation of vulnerable groups. Although many governments in LMICs reject this narrative, in practice many of them allocate contracts in terms of the lowest costs (Sonnino et al., 2016).

In the second case, the state bodies actively seek values for money and not just value for money or cost minimisation via competitive tendering. This is how the state actions have been attached to a greening and moralising economy that under the umbrella of a “Green State⁵” (re) produces sustainable outputs in the context of procuring goods and services (Morgan and Sonnino 2008). From this angle, two approaches have emerged to assess tenders beyond price tags to embrace social and environmental criteria (Schmitt et al., 2014). On the one hand, governments have begun ‘greening the realm’ by purchasing products and services with less potential environmental impact. This approach constructs sustainable transitions from the environmental side and customs reward criteria to give preference for more efficient forms of natural resource use, longer durability, lower maintenance costs, acceptable environmental origins, and preference for national services or goods. Largely used to procure industrial products and heavy costs services, within this policy framework neither cost minimisation strategies nor dominant providers’ business models are challenged; although, changes in eligibility criteria might have positive social outcomes.

In contrast, the state can construct procurement laws and regulations aiming to promote the emergence of territorialised relations between the state, food provision chains and civil society actors (Wiskerke, 2009). In doing so, it is argued that procurement strategies represent greater prospects in relation to sustainable development until the economic criteria are weighed against the goals of social justice, environmental stewardship and nutritional security (Sonnino, 2010, Rocha et al., 2012). In this ethical or ‘sustainable public food procurement’ approach, local production and consumption of food is by far the arrangement receiving most attention by its capacity to contribute to transformational change. As Morgan and Morley (2014 p, 88) put it:

“Scaling up does, however, present possible threats to sustainability more broadly, as purchasing through large contracts tends to favour large ‘conventional’ supply chain arrangements – the aggregation of demand tends to result in the aggregation of supply. While the implications of such aggregation are not entirely clear from a sustainability standpoint – because small and local suppliers do not necessarily equate with sustainable suppliers – it is clear that such systems ape the conventional supply chains and values that have contributed to the current sustainability crisis”

⁵ Robyn Eckersley, in her book *The Green State: Rethinking Democracy and Sovereignty*, advances the notion of a ‘green’ democratic state whereby the government ideals, regulatory frameworks, democratic procedures, and agents’ actions are informed by environmental, social and economic concerns.

The core assumption here is that at the re-scaling of supply chains, simplified modes of food provisioning emerge and offer a viable response to the unfolding of NFE based on: reconnection of producers and consumers around sustainability values and nutritional objectives; fairer re-distribution patterns of economic gains articulated in more inclusive forms of market governance; re-valuation of cultural attributes of food and agricultural traditions; promotion of environmentally friendly practices; and reduction of packaging, waste and food miles (Sonnino et al., 2014b). In turn, it is argued that these new relations have the potential to (re)connect, (re)embed and intertwine producers and consumers in 'alternative food geographies', conveying new forms of place-based social capital (Wiskerke, 2009) which are better positioned to address the challenges emerging from the NFE while mobilising the "social, cultural, political and spatial aspects of agri-food systems" (Marsden, 2012).

This knowledge claim, however, is under scrutiny since shortening supply chains have become widely understood as re-localisation strategies (Morgan, 2010). While the crux of the matter in public procurement is the mediation role of the state in the protection or dissolution of provision chains – hence the defence of the public – this literature rightly points out the perils of the local trap. Sonnino (2010) summarises the local trap debate and points out that localisation strategies are weak when actors do not concede interrelations of mutuality between proximity supply chains and the whole food and economic system in which they reside. For example, claims that local food generates less pressure to the environment and delivers healthier options or additional social benefits than its more distant counterparts are not always the rule of thumb (Edwards-Jones, 2010, Goodman et al., 2011). Moreover, a weak compromise with social justice alongside shortening food chains might reproduce parochial spaces for the commercialisation of food. In these spaces, actors can selectively embrace ecological and farmers' income claims, whereas the issue of distribution and access to adequate food for the poor is neglected. From this perspective, the transformational capacity of localised procurement strategies is assumed rather limited, insofar as they routinely reproduce the logic of the neoliberal state⁶ (Allen and Guthman, 2006).

In practice, this means that at implementation level, exclusionary (as opposite to universal) SFPs can reinforce inequalities, especially in relation to low commitment of both local and national procurement officials with an inclusive or social welfare agenda. According to Sonnino (2013) From the local trap critique, the main lessons in relation to school food reform while addressing the negative effects of an unfolding NFE are as follows:

⁶Neoliberalism is a political economic philosophy that affirms the primacy of the market for meeting human needs and social welfare, while reorienting the state towards the facilitation of market mechanisms which include: deregulation (the removal of laws restricting the ways that markets can function, or that favour one industry or product over another), trade liberalisation (the removal of protectionist tariffs designed to foster national consumption), and the privatisation of state enterprises and public services (Alkon and Mares, 2012).

- Procurement authorities cannot blindly equate localising the food system with sustainability, since discourses of food provenance can create defensive or progressive provision strategies in relation to wider societal interests and ecological boundaries;
- Decentralised procurement frameworks can reflect both the disassembly of welfare state responsibilities or empowerment for local authorities to experiment with the values of shortening food chains;
- As a consequence, attention should be focused on those assemblies in which the state or institutional buyer at any scale becomes a key food chain actor in the pursuance of change, and evaluations of their benefits (or disadvantages) are based not only on concrete rather than abstract terms, but in terms of social composition and sustainability goals

In addition to the conceptual debate on re-scaling food chains, academics are also interested in those creative forms of procurement enacted at municipal level. In this regard, it is argued that despite the ingrained cost-cutting culture within food institutions, there are cities and school food champions pioneering reformist efforts. They are characterised by both a relational lecture of the benefits of shortening or moralising food chains, and the re-interpretation of the meaning of 'best value' as to embrace a deeper understanding between the relations of short term costs and long term benefits.

Notwithstanding such initiatives have shown the potential to instigate transitions, especially in terms of changes in food service quality, menu composition, access to healthier, seasonal, and fresher foods, patterns of civic connectivity, economic redistribution of public money and farmer's interest to participate in local food chains (Morgan and Sonnino, 2008, Otsuki, 2011), they remain atomised and can be defined as 'islands of good practice' (Morgan and Morley 2014).

But, it is from this perspective that the ethical public food procurement literature makes another key contribution; i.e. the identification of barriers to both institutionally and geographically scaled up-and-out school food reform. In addition to arguments of fiscal stress, higher costs perception, low marginal gains for smaller suppliers and institutional inertia, it is argued that the bizarre world of procurement is a maze of international trade regulations, national policies and particular implementation strategies.

As a result, procurement officers tend to reduce complicated operations into manageable frames of action, where the definition of best public interests is predetermined in terms of costs per unit and calorific contributions. Moreover, actions pursuing change are mediated by rationalising operations within explicit codes of conduct (e.g., audit systems and nutritional guidelines) designed to measure acceptance of them in terms of savings and nutritional quality. Indeed, while there are alternative guidelines for (semi) public bodies

to set omni-standards, in reality the metrics of compliance, competence and success – the core values informing tendering processes – of public agents remain weighed against value for money and industrialised quality conventions (Morgan, 2010). There is a consensus that such barriers have to be overcome before state bodies can embed **values for money** in the profile of school food menus (see, Box 1)

Box 1


A selection of common barriers to sustainable school food procurement from the perspective of procurement managers

- Policy issues: Uncertainty as to what can be pursued, and cannot be done, under existing procurement rule and audit systems (both national and international) on public procurement.
- Reward criteria: signatory countries of the WTO Government Procurement Agreement (GPA) cannot explicitly discriminate food provenance while pursuing a social agenda.
- Indicators: Lack of indicators for – or accessibility to- the ‘objective’ evaluation of SSFP, including life-cycle costs, sustainability profile of surrounded production systems, etc.
- Institutional inertia: Risk-averse organisations prefer to purchase from suppliers with experience and good track record, lack of incentives to drive change; criticism from the media, school food community and audit system to new ways of doing.
- Ownership: Ambiguity in roles and responsibilities result in lack of commitments to the reform at all levels.
- Cost ratio: perception of increased costs associated with purchasing food from small or middle food enterprises
- Paying a premium to achieve some sustainability objectives seem to be incompatible with the goal of maintaining under control government accounts
- Knowledge: Lack of awareness of the need for and processes required to include omnistandards in public calls
- Information: Limited information about the a more sustainable alternative, process or product
- Quality standards and food safety issues: mismatches between traditionalised industrial and new civic or domestic quality conventions

Sources: (Morgan and Sonnino, 2008, de Schutter, 2014a, Morgan and Morley, 2014)

While these barriers might give a picture of the challenges of school food reform in high income countries, they also parallel in LMICs, especially those experimenting with localised food purchases for smallholders or HGSF in Latin America (Otsuki, 2011, FAO, 2013). Among them, however, two key discontinuities surface. Firstly, SFP sustainability profile is defined by the states’ capacity to fund and manage SFP without the intervention of international donors (see, Table 1).

Table 1 The transition of school feeding programmes

	Stage 1		Stage 2	Stage 3	Stage 4	Stage 5	
	Programs rely mostly on external funding and implementation					Programs rely on government funding and implementation	
Policy framework for school feeding	limited		increased	strong	strong		strong
Government financial capacity	limited		moderate	increased	strong		strong
Government institutional capacity	limited		limited	moderate	increased		strong
Countries	Afghanistan	Malawi	Mali	Kenya	Lesotho		Nigeria India
	CAR	Ethiopia	Cambodia	Côte d'Ivoire	Ghana	El Salvador	Chile
	DRC	Haiti	Rwanda	Madagascar	Ecuador	Jamaica	Brazil
	Sudan	Tanzania	Niger	Senegal	Honduras		Botswana

Source: (Bundy et al., 2009)

It is well known that the reliance on food donated by agricultural powerhouses or purchased from large commodity traders reduces the capacity for national states to strategically use food procurement to link supply and demand (Morgan and Sonnino, 2008). This is primarily because when a programme stays at the level of food assistance, the rooted causes of food insecurity are bypassed, including poverty, inequality and marginalisation (Yasbek, 2004). However, countries with the utmost need for SFP are dependent on international “food aid”, received about 83% of resources to run SFPs from donors (WFP, 2013).

Furthermore, efforts of food aid organisations to develop and support HGSF initiatives is not sufficient for countries to adopt such a model or conducive to the formation of fairer forms of producing, distributing, or consuming food (Sonnino et al., 2016). In this scenario, it is not only the ideals of the green state or the strategic role of public procurement what can mediate food transactions. First and foremost, is about the state becoming the cornerstone of economic and social rights (da Silva, 2009). As Morgan and Sonnino (2008, p 164) put it, school food reform in LMICs countries “needs to be understood as a learning-by-doing exercise in which the end product, the provision of nutritious food, is just one part of a much larger process”.

The second difference is the vulnerability of localised forms of public procurement to be used on the basis of assistencialism, a term used to describe a policy that is conceived as an emergency measure rather than a structural strategy. In turn, such measures can be used in clientelist politics to maintain political and financial power, regardless the real needs of the targeted groups and their capacity to be co-producers of their food needs and wants. Indeed, SFPs are specially challenging in LMICs because when buying large quantities of food, these transactions attract the interests of the few (WFP 2013). For instance, it is argued that despite the benefits of empowering local communities to decide what to buy, audit officials mark those arrangements as misgivings. One consequence is that in nationally-governed SFPs, transparency goals are especially heavy in competitive frameworks and

bureaucratically tied to strict procurement procedures and accountancy forms – e.g., India, Chile, and Brazil (WFP, 2013, Drake et al., 2016)

Likewise, in high income countries, anti-corruption measures are conducive to acceptance of the lowest bid, whether the supplier is local or not. Contrarily, however, school food procurement officers in LMICs do not often enjoy a priori judgment of reliability and trustworthiness of public acts. Then, the virtue of local mobilisers of the reform towards strategic use of governmental purchases is evaluated suspiciously due to their lack of commitment to a *formalised* set of public procurement laws (Triches and Schneider, 2010). One result is that when including values for money in procurement processes, traditional actors' responses like leadership, readiness to act, awareness of sustainability and public health issues, and organisational capacity are not enough to mobilise resources to enable good practice to occur.

This section so far has presented a review of the emergence of the strategic role of food procurement as a response to unfolding of the NFE and the systemic food crisis. Public food procurement is prolific in identifying the impediments to move from traditional, price-based, competitive tender processes towards omni-standard public procurement. In doing so, there is an explicit or normative call to deal with finding arrangements and outlining pathways with greater prospects of escaping the current crisis, e.g., shortening food chains, escaping the local trap or national-owned SFPs. In the context of LMICs, these strategies often observe changes in school food procurement as beneficial for smallholder farmers due to the opening up of new markets without questioning the assumptions underlying such propositions. This issue is approached in the following section.

Family Farmers (FFs) and School Food Markets

Today, there is an increasing recognition that those who live and work on small parcels of land and manage restricted amounts of productive resources (e.g., water, soil, pastures, seeds, labour, etc.) through the predominant use of family labour are the keystones to ending hunger and securing nutritious food for increasing populations (Garner and de la O Gender, 2013, HLPE, 2013, Schneider, 2016b). Studies estimates, for instance, that FFs produce the majority of the world's food and constitute 98% of all world farms, yearly producing value of over USD 2.2 trillion (see, e.g., FAO, 2014b, Graeub et al., 2015). Moreover, 95% of family farm produce in developing countries is domestically traded and consumed (Gómez et al., 2011). In Latin America, it is calculated that family farming supplies between 27% and 67% of procured food over 12%-67% of the agricultural area, and accounts for about 81% of all farms (Leporati et al., 2014).

The rediscovery of FFs as key actors of domestic food production goes in tandem with their new multidimensional roles in sustainable transitions. This idea is supported in various

reports pointing out that FFs are strategic in the context of generating opportunities including food surpluses and livelihood opportunities within a regenerative approach to natural resources management (Chappell et al., 2013); more jobs, productivity, and synergies within regional agrarian economies (Rocha et al., 2012, Schneider, 2016a); and more agrobiodiversity, thus contributing to dietary diversity, a key aspect of the challenges in the NFE (HLPE, 2013).

Conceptually, however, FFs are more than scale-work-endowment relationships vis-à-vis productivity or sustainable products. A large body of literature is devoted to this subject, and like most social and political categories, there is no consensus as to what substantial qualities define them (Schneider et al., 2008, Garner and de la O Gender, 2013). One compelling methodological procedure is to understand family farming emerging from its relations with the wider economic and political system. In this regard, Schneider et al. (2008) contend that the prime feature of FFs is that, different from the past, they are no longer subsistence farmers isolated from a complex and changing social reality. On the contrary, FFs increasingly participate – although heterogeneously – in more complex social reality (e.g., urbanisation, technology, nutrition transition), markets (e.g., territorial, domestic, global) and policy landscape (e.g., credits, safety nets, extension, labels, etc.) (see, Figure 2)

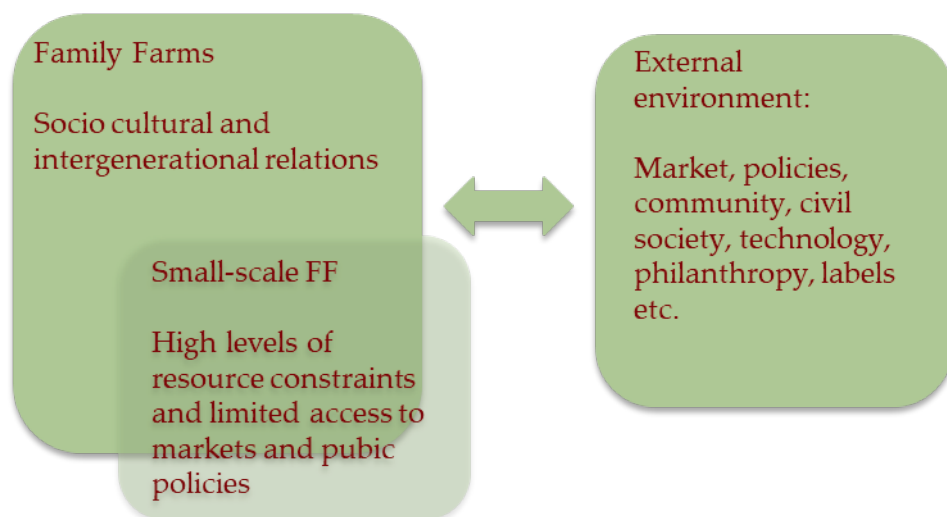


Figure 2 Representation of family farmers and small holders

How these interrelations are configured influences farming styles, livelihood and sustainability outcomes (Schneider and Niederle, 2010) which in turn originates two ideal family farm two ideal farm developmental trajectories, family agribusiness and family farming itself (see, Table 2) (Van der Ploeg, 2013). Family agribusiness, or entrepreneurial farming, measures success in profits; hence, production factors are mobilised as farms'

activities generate marginal returns. In the light of persistent cost-price squeeze, volatile prices, and control over access to markets, these ‘entrepreneurial-like’ farmers choose a development pathway to take over other family farms, usually intensifying monocropping and harbouring strong trends towards agricultural industrialisation (Van der Ploeg, 2010).

In contrast, there are FFs determined to maintain higher degrees of autonomy, symbiotically working with nature and labour. Although this lifestyle and way of farming is a multi-layered and multi-dimensional phenomenon, it has some salient characteristics: more control over the main farm resources, source of family employment and pride, coproducing relations between nature and farmer, being a place where needs are satisfied and there is possibility of progress, home to the farming family, outcome of the work of past, present, and future generations, node of empirical knowledge and novelties, loci of culture and rural economies, traditions, and multiple activities in addition to farming (Van der Ploeg, 2013). Here, farm development is about the ability to organise farming in such a way that required production resources, farming processes and marketable outputs do not fundamentally contradict the principles previously described.

Table 2 Main differences between family and entrepreneurial modes of farming

Family farming Mode	Entrepreneurial Family Agribusiness
Building upon and internalizing nature; co-production and co-evolution are central	Disconnecting from nature; ‘artificial’ modes of farming
Distancing from markets on the input side; differentiation on the output side	High market dependency; high degree of commoditisation
Centrality of craft and skill-oriented technologies	Centrality of entrepreneurship and mechanical technologies
Ongoing intensification based on quantity and quality of labour	Scale enlargement as the dominant trajectory; intensity is a function of technology
Multifunctional	Specialised
Continuity of past, present and future	Ruptures between past, present and future
Increasing social wealth	Containing and redistributing social wealth

Source: Van der Ploeg (2008).

In relation to access to markets for FFs, Schneider (2016) argues that markets are more than simple spaces for the marginal formation of prices or qualities as they are the result of concrete institutions, actors, and sociomaterial infrastructures mobilizing products and services. He adds that from this point of view, the market question shifts from the belief that markets are prescribed to be detrimental to smallholder as they reinforce processes of

marginalisation towards seeing them as the “*the locus and the focus of socio-political struggles*” (Schneider et al., 2014 p, 192).

In fact, many authors in LMICs share the view that in many occasions markets can become the space for the consolidation of economic and social rights (Abramovay and Morello, 2010, Kageyama and Hoffmann, 2006, Schneider and Niederle, 2010). As Sen (2001) argues: it is the restriction in access to markets which hinders the exercise of substantive freedoms on the part of the poorest. Hence, there is a demand for understanding what sort of sphere of circulation contributes (or not) to the overall wellbeing of FFs.

It is in this context that school food markets for targeted farming populations have become an important government tool since they operate (at least partly) outside of well-established monopoly and monopsony market structures – that for many hamper FFs wellbeing⁷ (Van der Ploeg et al., 2012, Triches and Schneider, 2013). While these markets share some ordering principles with other innovative market configurations⁸ (i.e., closer links producers-consumers) they differ in two fundamental ways.

Firstly, it is the state that mediates the relations between consumers and primary producers. In large and based on the state regulatory, financial and legal capacity, it can legitimately construct or direct agro-food economies in the establishment and provision of public goods on services (Morgan, 2008, Sonnino, 2009a). In doing so, it is argued that institutional markets functions within the logic of redistributive economies, which sustain that based on taxation systems, the state reallocates financial resources to FFs and food for social consumption (Schneider, 2016).

Consequently, the strategic role of food procurement and respatialising strategies as guiding principle for market organisation is not simply a matter of the restructuring of territorial supply-demand relations (as is most often assumed in externally sponsored HGSP). What is at stake, in fact, is the role of the state in reorganising institutions to enable and mobilize economies aiming to redistribute wealth (Grisa et al., 2010). One particular consequence of this is that in countries with high levels of inequality, the redistributive arrangements belong to the protection and enactment of citizens’ welfare (Belik, 2012).

The second is that institutional markets operate at the intersect between traditional commercial/industrial conventions (price mechanism, efficiency and reliability of

⁷ In fact, there is a growing consensus that fruitful initiatives designed to counteract the negative impacts of the intensive food system and dominant regulatory arrangements avoid or bypass the centres of powers over which it gravitates (e.g., seed corporations, agrochemical input industries, trade boards, large food processing business, supermarkets).

⁸ For example: farmgate sales, box schemes, university kiosks, farmers’ markets, cooperative shops, HORECA, territorial markets etc.

suppliers) and domestic/civic conventions (trust, face-to-face relations, food provenance, traditional methods of production and procurement of goods having general societal benefits) (Sonnino, 2009b). These conventions are reconciled at implementation level. Indeed, case studies in school food show, for instance, that in targeted public bids paid prices are not higher than those reported in wholesale regional markets (FAO, 2013).

Authorities also tend to keep industrial standards to ensure food safety and the uniformity of quality. Nevertheless, together with FFs, they set special payments, alternative quality requirements or delivery conditions, etc. In other words, institutional markets are more accurately represented in relational terms as they connect in many ways to the sustainable values advanced when shortening supply chains, yet they are not separated from institutionalised systems of rewards and market principles (price, competition, industrial safety and nutritional standards). In turn, the way this interaction is established allows market access and defines the ‘market order’ or patterns in which food flows from farms to schools.

In the literature, the aforementioned ordering principles and market orders are conceptualised from two perspectives: the value chain approach, and the social/institutional construction of markets.

Value Chain Approaches and School Food

The first account follows a **value chain** prescription. This approach is commonly used in donor-led food procurement seeking alternatives to buying staples and sponsoring marketing prospects for local farming communities or HGSP. This represents a paradigmatic shift from the concessional use of food aid (the use of food as a political tool to benefit net-food exporter countries) to the constructive use of international resources in the promotion of economic and social development. As a framework for access to markets, this approach focuses on improving commercial relations between smallholder farmers and schools (supply chain partnerships) with the expectation that enhanced links will produce (mostly economic) benefits for those involved, including a better position for FFs. For instance, the UN World Food Programme model of direct procurement from FFs ‘Purchasing for Progress’, or P4P, aims to build more effective value chains to deal with food insecurity: “...empowering smallholder farmers to become competitive actors in global food systems is crucial in our efforts to achieve the Sustainable Development Goals (SDGs) and Zero Hunger” (WFP, 2015b).

The main normative argument here is that competition and economic incentives lead to greater social satisfaction measured in better prices for the procurer; smoother integration in consolidated food chains; faster adoption of agricultural innovations; firmer entrepreneurial skills; and overall increments in productivity (Ahmed and Sharma, 2004). In turn, FFs’ participation performance in HGSP is positively assessed if there are incomes

and productivity increments or their competences signal adaptation to competition routines and planning for production marketing. In this context, farmers' livelihood sustainability is a matter of generating more income, regardless other potential causes of poverty or local trading practices, actual production capacity and surrounding food environment. Moreover and while income is pivotal to maintain viable farms, the value chain approach assumes that the best way to achieve it is by greater insertion to the dominant system of producing, distributing and commercializing food. A framing that is increasingly associated with a vision of rural development focused on entrepreneurial family farming and global markets as means to "put an end to poverty" (see, e.g., Patel, 2013).

Despite the strong tendency to assume economic instrumentalism lenses to advance how the linking of the family farmer is foreseen, the value chain approach has brought important questions when it comes to the performativity of HGSF policies. Indeed, the overall assumption of FFs as direct target school food policies is a much-contested assertion. Cross-country and longitudinal studies reveal that FFs' incomes are not significantly better after providing food to schools, and that their involvement in the programme is sporadic (WFP, 2015a). Most reports reveal that in addition to changes in procurement rules whenever possible, access barriers are lifted by granting contracts to farmers' organisations or local traders (Bundy et al., 2009). This is to say that the economic gains of localising institutional food procurement are captured in other segments of the value chain.

A key feature of such observations is that the authorities tend to contract only intermediaries or farmers' associations who appear most likely to adapt to the agency requirements (e.g., payment procedures, quality and quantity standards, contract negotiation). For instance, Sulemana (2016) studied HGSF in Ghana and observed that procurement managers, school authorities and intermediaries collaborate to resolve problems while matching demand-supply, yet there is little evidence of shared governance and redistribution of marginal returns towards primary producers. Grisa et al. (2010) found similar patterns in Brazil. They observe how intermediaries, traders or traditional cooperatives become a viable platform for smaller producers to commercialise and organise production according to their multiple livelihood strategies and resource constraints. In this arrangement, however, the authors assert that there is little room for FFs to influence cooperative decisions in general, and price setting, re-distribution patterns or quality attributes in particular. In short, small primary producers are highly susceptible to the buyer and the very nature of school food requires a stable supply of relatively few commodities in large amounts.

There are various reasons found in the literature for this to occur. The scale argument maintains that *"due to the scale of the demand, the procurement of food from individual small-scale*

farmers is impractical" (Espejo et al., 2009 p, 48). The logistical argument contends that procurement officers sacrifice interaction and shared responsibility in favour of practical logistical considerations. Lastly, the financial argument upholds that the continued cost-price squeeze of school menus is often conducive to trade based on economic reasons rather than social premises, diminishing the capacity to establish long term relations with the supply side necessary to construct a vibrant supply chain (Kloppenburger et al., 2008).

Amid these tensions, however, empirical evidence – in which FFs are not trapped into procurement needs or intermediary wants – shows that successful experiences mobilising food directly from family farms to schools entails more than profits, volumes, or simply household survival. In fact, researchers show that additional motivations (e.g., children going to schools, local development, mutual support, tradition, etc.) and social relations (trust, respect or goodwill) are equally relevant, especially when FFs aim to maintain patterns of connectivity to school meals at the local level. What follows is an account of the conceptual underpinnings of this approach that here is broadly labelled as the social construction of institutional markets.

Social Construction of School Food Markets

In general, value chain development is about allocating roles and relations to segments and actors in a linear fashion. The social construction of markets departs from this assessment and emphasises that connecting FFs to school meals is not one straightforward process. It contends, then, 'access' to and 'accessing' markets is a social activity. The main argument here is that economic interests cannot be taken in isolation, since social relations and livelihood contexts equally shape the flow (or absence) of food. As a consequence, the field of inquiry in this approach is more about how school food markets come to be more concrete, and less of how they ought to be prearranged and organised. In this way, the process of school food provision is seen as the result of multiple interactions, at different levels and scales, between FFs themselves and other actors who exchange for different reasons and through different mechanisms whether they entail price/commodity relations or other economic, social, environmental and cultural values.

Likewise, with the strategic use of food procurement and value chain approaches, the social construction of school food markets literature underscores the importance of shortening provision channels to producing more sustainable food system. Unlike them, however, the social construction does not necessarily equate the commercial relations emerging from this strategy with the social relations (trust, reputation, reciprocity, friendship, power) underlying them. This shift in the constative conceptual orientation is possible because FFs (and other food system actors) are seen, at least potentially, as co-producers and active actors of the school food reform, hence carriers of change.

Izumi et al. (2010) provide an illustrative example of this kind of approach when they assert that in shortening supply chains indicators of social embeddedness, such trust, territoriality, equitable payments to farmers, local sustainable development, food quality, and child nutrition are not intrinsically contradictory to the farmers' pursuit of rents. But supply problems and small profit margins make social relations fundamental to the operation of the programme, until the extent that they feel part of the change and of the school food community. In a similar fashion, Buckley et al. (2013) further indicate that while economic motivations (competitiveness, price, volume) seem to assume a higher priority as the scale of the school district increases, trust and mutual support are of vital importance, especially when SFP objectives are narrowly defined as "increasing income" for FFs.

Other scholarship maintains that the value of social relationships is also found when actors seek for alternatives when encountering the common barriers to access institutional markets (see, Box 2). In figuring out creative ways to overcome these challenges, school food scholars agree that the search for viable options entails collaboration and cooperation between suppliers and the public plate. As Galli et al. (2014) explains, linking local FFs to school meals entails reciprocal relationships between stakeholders, farmers, users, and civil society. This often begins before the transactions occur, is readjusted during the procurement process, and is constantly monitored by multiple actors. This is to say that economic action is prefigured and adjusted and not simply determined by price considerations or self-interests. In practice collaboration demonstrates that implementing the school food reform is a dynamic process mediated by social relations (Triches and Schneider, 2013)

This process-orientated reading is complemented with a perspective holding that the construction of school food policies and targeted categories equally rely on socio-political processes. In fact, operational definitions of what FFs are or the defining characteristics of smallholders greatly differ from country to country (FAO, 2013). The same can be said with the meanings of local purchases; some refer to miles, others to municipal and geographical organisation charts, and yet when it comes to implementations, the meaning of closeness to FFs is associated with specific traditions, particular products, recipes, reality, or craftsmanship. Furthermore, and more than any other programme, school food reform is the result of the construction of social and economic development policies, investing public funds for its materialisation by which they require democratic processes for goal setting, target selection, allocation of means and transparent accountability and feedback mechanisms (Morgan and Sonnino, 2008). In Brazil, for instance, successful public food contracts for FFs are only the tip of the iceberg of assembling the needs and demands of an array of actors of different constituencies in multiple agri-food policies, including their organisations, farmers' unions, rural NGOs, self-organised organic certification enterprises, social movements, extension services, city governments and various government ministries (Schneider et al., 2010).

Box 2.**Main barriers to FFs participation in school food meals**

- Policy regime: Public procurement does not prioritize sustainable purchases nor smallholder foods. Poor harmonisation of local tendering with international funding culture
- Legal issues: Country general procurement law limit the entrance to institutional markets to few participants based on economies of scale
- Tendering process: The framing of public bids and contracts does not match with the logic and organisational capacities of small-holder farmers
- Support to smallholder farming: In many LMICs there is not dedicate institutional and policy architecture for small holder farming (e.g., credit, extension, information, climate change measures, etc)
- Food safety and industrial standards: Food safety compliance prevent the participation of FFs
- Infrastructure: Limited access to suitable storage, distribution, processing and postharvest handling infrastructure
- Level, nature and governance of funding: Either international donors or national government compromise with school food reform is not reflected in the allocation of financial and human resources.
- Appropriate cooking facilities and staff: Small holder and FFs foods staple requires culinary processes. Often, there is a lack of built infrastructure and human capital to support this activity.
- Scale: Supplying food to large school food districts requires heavy logistical infrastructure and quantity/quality management skills

Source: (Lozano et al., 2016)

Notwithstanding the merits of this body of literature to connect FFs to the power of the public plate or SFPs as tools to create markets for them, there is also a tendency to marginalise a core debate in SFP – that is, FS. The following section will focus on this issue.

Food Security (FS) and School Food

A survey on contemporary meanings of FS – framed as a universal ideal to prevent hunger and malnutrition – reveals that scholars today are more concerned with the relationships between policy orientations and implementation strategies than in establishing operational definition⁹. Indeed, the last comprehensive literature review on FS conceptualisations came out in 1996, covering 32 different definitions of FS between 1975 and 1991 (Maxwell, 1996). A major conclusion in this study demonstrated the discursive fungibility of the concept, corresponding to changes in the global political economy of food, national politics and

⁹ Authors like Lang et al. (2009) depart from this account and encourage the use of an intuitive definition of FS, maintaining that ‘we could shorten the definition of FS to a state where everyone is fed well, sustainably and healthily, and able to choose culturally appropriate food’ (p.255).

development strategies. More recently, researchers based on the analysis of Mooney and Hunt (2009) tap on this conclusion and conceptualise FS as one internally differentiated political construct, constituted of linked values and sub-categories which are potentially in opposition to one another (e.g., availability vs access approaches) and constructed by communities of interest. In other words, it is argued that FS is an 'elaborate master frame' of collective intentionality defined by opposition and the whereabouts of how it can be more effectively accomplished (Hinrichs, 2013, Tomlinson, 2013).

Since FS is essentially a public policy Maluf (2007), the way FS debate is framed has significant implications for how agri-food policy is developed and challenged. While in some contexts several competing frames coexist and do not clearly define competing claims (Candel et al., 2014), in the literature three separate policy orientations are used to highlight their emphasis on different diagnosis-prognosis frameworks: (neo) productionist, access-based, and food system approaches. In relation to SFPs, the different notions and practical methods of intervening proposed in these three policy frames vary significantly across the world (Sonnino et al., 2016). Yet, they clearly influence the direction of the operationalisation and thought of school food reform.

Productionist approaches to FS

The productionist frame of FS maintains that challenges of feeding populations reside at the supply side of the equation where low productivity relates to lack of food availability, higher food prices and rural poverty. In LMICs, proponents of this approach advocates for increasing food production by modernising agriculture or boosting technical substitution; lifting trade barriers; reducing regulatory burdens for international investors; and enacting structural and monetary adjustment policies. In addition to producing more food, this framework stresses the role of international food trade from net food exporting countries to those that through 'natural' conditions cannot produce enough food for the internal market. Thus, FS is a matter of having abundant production in somewhere that can meet food shortages anywhere at whatever scale. As a result, policy reform pivots around mechanisms to intervene both at the production side and the sphere of national and international circulation of commodities.

Much of the literature on FS agrees that the productionist approach of FS is the result of cumulative events and continuities in the formation of contemporary agri-food economies. In fact, the green (or, more accurately, productionist) revolutions complement availability fundamentalism and the 'calorie-isation' of food and diets (Philip, 2004, Maluf, 2007, Carolan, 2013a). These three processes relate, interact and self-reinforce over time and space. Concisely, the productionist revolution, a trend increasingly adopted by LMICs governments after WWII, is a policy aiming to increase production through substantial investments in fertilisation, irrigation, improved seeds and breeds, introducing

biotechnological products, chemical disease and pest control, subsidised credit, and securing markets for farm surpluses. At international level, the productionist revolution is often catalogued as a move from agricultural powerhouses to broaden the economic portfolio from low value added commodities to manufactured products, including GMOs, pesticides, and specialised machineries, formal knowledge and technologies (Patel, 2013).

Calorie-isation accompanies this tendency to the extent that producing more of the same thing (monocultures) is deeply linked with the homogenisation of diets. This is possible because diets began to be measured and understood in simple terms like calories or daily calorific requirements (Carolan, 2013a). One consequence is that since the mid-thirties, governments began adopting calorific measures as a core concept for food policy. Indeed, to this day there is a certain degree of acceptance that a country calorific balance (net trade) is an adequate indicator of FS policy design. Finally, agricultural fundamentalism, or the primacy of food availability over access to food, assesses agriculture as a unique sector to be protected by national governments, especially with regards to its key role for manufacturing, trade, national security and economic development. Specifically, in Latin America, agricultural fundamentalism is associated with the push of governments and of multilateral organisations to adopt agricultural modernisation to achieve economic development (Navarro, 2001).

Nowadays, FS researchers sustain that the productivist approach has been increasingly inserted in a neo-liberal system of state action and the logic of global and industrialised agri-food systems. In this neo-productivist framework, resolving problems of food sufficiency is about increasing farmers' entrepreneurial specialisation in few commodities, intensive oriented agriculture and allocating food surpluses in commodity markets or global supply chains¹⁰. Furthermore, the main narrative in the neo-productionist framework assumes that lack of food is a matter of underproductivity and 'imperfect markets' in low-income countries or regions. In this context, rural smallholders represent the problem of food insecurity and a potential solution. It is assumed, then, that in linking underproductive farmers, household income levels would rise to the level of eradicating poverty. Markets here are understood as both input (seeds, fertilisers, machinery, pesticides) and output (supermarkets and structured food chains) conglomerates.

As a consequence, producers can become engines of economic rural life, although only insofar as they catch up and actively engage in their rules of the game. Various studies further explain the limits of such approach in family farming agriculture (see, e.g., Carolan,

¹⁰ There are several commonalities between this vision of FS and the value chain approach to school food explained earlier, being the most prominent the emphasis on building entrepreneurial competences and the ultimate goal of integrating FFs to consolidated food chains. The main difference, however, is that in productivist FS the multinational private sector (in opposition to multilateral organisations) occupies the role to linking FFs to their markets.

2013a, Lawrence et al., 2013a). Technological fixes can increase production, yet only entrepreneurial-like FFs may adapt to these ‘innovations’ at the speed necessary to secure any financial gains. This is to say that more well-off farmers and large landowners are most likely to benefit from productionist policies, reinforcing rural inequalities (e.g., consolidation of large units of production) while economically marginalising or further excluding from agriculture most farmers with limited access to land, water, finances and political capital.

Together with a lack of state investment in distribution infrastructures and a retreat from FS policies, this is a major contributor of food insecurity in the Global South (Maluf, 2007, Patel, 2013). On this basis, critics maintain that promoting market integration goes in line with displacing national-centred responses to malnutrition, because it encapsulates securing food within a profit-oriented model and not a human or social development project (Ibid). In addition, there are explicit efforts from states and food giants to establish a globalised FS framework of action in which ‘free’ trade agreements are the ideal governance routes to allocate and distribute food. Summarising, neo-productivist FS relies on (and expresses):

- An international regulatory regime fostering adhesions (and systems of incentives) to globalised food markets independently of concerns arising from social, ecological and nutritional demands.
- A state-based regulation approach aimed at stimulating free trade while extending profit-making opportunities of industrial agriculture and big-food companies.
- Private efforts to bring specialised knowledge, modern supply chain logistics, and professional management techniques to subsistence or ‘underproductive’ farmers, while inserting profit-oriented assemblies able to govern key production or market channels.
- A retreat by the state from central planning, stock formation, and R&D while devolving power towards food safety bodies.
- A displacement of harvest failure risks from the state and large-scale buyers: inwards farmers and outwards net food importer countries.
- Emphasis on a nutritional approach that solely grasps organoleptic food properties that the human body can utilise, whether they come from enriched, functional or engineered products or any other processing activity.
- Existing patterns of food poverty and insecurity are determined whether or not a person or household has sufficient purchasing power, and more recently consumers’ ability to identify and purchase nourishing foods.

Any other aspect in the FS equation such as access, self-sufficiency, or auto-determination to set food policies are secondary, if not unnecessary, for the optimal allocation of productive resources (Sonnino et al., 2014b). This stance is detailed in the Brazilian Ministry

of Agriculture strategic plan which sees the increase in food production and boost in productivity as the most important contributions that agriculture in Brazil can make to global and domestic FS – that is, exploiting the availability of natural resources, technological capacity and entrepreneurial agriculture (CONSEA, 2010b). Similarly to Brazil, other agricultural powerhouses also encourage the adoption of technical solutions to ‘modernise’ agriculture and produce more food, while providing more income to rural dwellers and steady calorific availability to feed an expected nine billion people by 2050.

While SFPs are often seen as food access programmes, (neo) productionist FS framing influence how they are implemented. In this regard, academics contend that three interrelated factors are worthy of attention when studying SFPs. First of all, as explained in the public procurement section, authorities tend to award contracts based on cost-reduction strategies and the economies of scale. Since these strategies occur alongside the state ‘roll back’ from the Keynesian-welfarist (deregulation, privatisation, cuts in services and entitlements etc.) and ‘roll out’ (devolution, international trade institutions, private regulations etc.) approach to development, it is widely accepted that SFPs, when not of universal character, are embedded in neoliberal frameworks (see, e.g., Allen and Guthman, 2006, Sonnino, 2010). Furthermore, state cost-saving strategies imply the frequent oligopolisation of the procurement market – that is, a few catering companies offering the service at reduced prices. Because these companies cannot reduce portions or nutritional values of school meals due to service regulations, shrinking costs might be passed to primary producers. This in turn can contribute to the squeeze of agriculture, reinforcing the need to increase productivity by technological adoptions and enlargement of farm operations.

In second place, consumption patterns have changed as a result of (neo) productionist FS policies. Indeed, what is produced influences what is served in schools. For instance, it is widely acknowledged that school meals under the food aid scheme rely on ‘calorically better’ commodities and enriched flours produced in net food exporter countries (Sonnino et al., 2014b). Research on the effective utilisation of food shows that supporting production and commercialisation of high-yielding cereals is conducive to cereal-based diets, leading to deficiencies in proteins and micronutrients (Carolan, 2013a), a phenomenon labelled ‘hidden hunger’. By the same token, some authors such as Nestle (2013) argue that putting in place productivist FS policies entails changes from seasonal ‘whole’ food diets to energy dense diets, which contributes to heavy burden of diet-related ill health from obesity and overweight (this occurrence is later exposed in detailed).

The third factor is the weakening of domestic family agricultures and distribution channels. Food aid and food dumping are often referred to in the literature to explain the workings of this phenomenon (Friedmann, 2005). In SFP, the two main appliances of food aid have been distinguished as concessional and constructive use of international resources.

According to Shaw (2004) concessional food aid is the uncooperative and perverse use of food aid to advance national political and economic interests, and multilateral agreements refer to the constructive use of food aid that seeks to complement national FS actions when food deficits occur. In Latin America, for instance, the constructive use of food aid at schools finished in 1955 and functioned as an emergency policy against hunger in those rural areas more affected by adverse climate conditions. After this period, food donations were used to pursue a particular agenda from of farmers in high-income countries. One major problem here is that domestic farmers in poorer countries stop producing traditional staples since imported food is cheaper than the local option (Philip, 2004). Thus, the expansion of the intensive and international FS regime has been greatly – though not totally – conducive to family agriculture deactivation and associated forms of impoverishment, depravation, marginalisation, and urban migration. In fact, dependency on low-priced food imports and concessional food aid jeopardises the potential of school food markets to contribute to the development of domestic family farming (Friedmann, 2005).

Finally, in relation to the challenges of the NFE, the neo-productivist frame advances an efficiency approach to reconcile additional agricultural outputs within the resource constraints. Broadly called ‘sustainable intensification’, this perspective prioritises actions to address negative externalities of different agricultural systems on the environment: soil degradation; loss of agricultural land; biodiversity losses; pressure over water resources; GHGs emission; and the environmental consequences of biotechnology. As a result, attention and efforts are put into production systems, management techniques and farm preservation measures that reduce environmental pressures (Sonnino et al., 2014b). At the consumption side, the efficiency perspective discerns consumers from their instrumental value to new production practices. That is, they can consume the same or more when producing food but with lower environmental impact. Moreover, nutritional problems are to be resolved with technological innovations – i.e. food fortification (post-harvest) or biofortification (breeding crops higher in target nutrients) (Garnett, 2014). In short, the efficiency approach to deal with NFE does not contemplate the socio-economic and political context in which supply-demand relations occur. As Garnett and Godfray (2012 p, 49) maintain, “...a system of food production that is socially or ethically unacceptable to a large fraction of the population will lack ‘continuability’, or resilience, however ecologically attuned it may be”

Food access approaches to food security

Historically, access to food emerged as a central concept in the design of FS policies in the eighties. At this time, the traditional-formula food aid from developed countries, national food reserves in times of shortages, and green revolution in developing countries entered into a globalised crisis. The widespread visibility of images of famine and worrisome data of global undernutrition substantiated the failure of the post-WWII formula. Alongside,

Sen's influential theory (1981) on entitlements began to shift the attention from food production towards the socio-economic context in which food is produced, distributed and consumed. This, of course, is not to say that earlier works did not share similar views (see, e.g., de Castro, 1952). But the point made in FS literature is to relate a thematic shift from supply to access, especially in regard to the political and socio-economic causes of poverty and hunger (Devereux, 2006). As Tomlinson (2013 p, 85) argues, ultimately “... *the dominant framing sees FS as a problem of inadequate agricultural production (availability), side-lining the other two pillars of access and utilisation and the perspective that sees FS as a distributional issue and of ensuring regular, appropriate, affordable access to food*”.

This shift has been institutionalised and become part of the most cited and accepted definition of FS used for policy makers to this day Clapp (2014): “*Food security 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*”. Since then, access has become one of the fundamental pillars in most definitions, characterisation, and sites of intervention of FS e.g., the Millennium Development goals¹¹. Maxwell (1996 p, 155) examines this shift using three scalar approaches: from the global and the national (availability) to the household and the individual (access); from a food first perspective to a livelihood perspective (from calories to endowments); and from objective indicators to subjective perception (from grain production/storing to risk perception of hunger).

Conceptually, the access framework forcefully contends that producing enough food does not necessarily translate into hunger or undernutrition prevention. It argues that in terms of understanding the causes of food insecurity, one should carefully examine how a person or community's socioeconomic entitlements are distributed, dealt with and secured. In Sen's terms, entitlements are “... *[a] set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces*” (Sen, 1997 p, 162-3). Entitlements, thus, represent the full range of goods and services that a unit can transform into food by means of his or her “endowments” (i.e. assets and resources) (Devereux, 2001). One prominent example is small scale farmers, whose endowments primarily rely on labour, land and social relations. As a result, food insecurity becomes a recurrent problem when the state, market or any other institution does not adequately grant or protect them.

By and large, considering access to food as the process that brings actors from endowment to entitlement is due to the influences of the livelihood approach to FS (Geiser et al., 2011). Indeed, the formation of hunger is seen as an institutionalised process of economic marginalisation, dispossession of production means and inequality; whereas people's

¹¹ At the World Food Summit in 1996, state members set the goal of *halving poverty* (and hunger) by the year 2015. This later became the number one goal of the MDGs.

responses determine levels of resilience to food scarcity and different survival strategies (MacMillan and Dowler, 2012). For Ellis (2000), these ‘survival’ strategies rely on a set of household assets or vital resources: human capital (the education, skills and health of household members); physical capital (e.g., farm equipment); social capital (the social networks and associations to which people belong); financial capital (savings, credit, cattle, etc.); and natural capital (e.g., land). They are mediated by social factors (social networks, institutions, policies) in which communities and actors thrive through time and space. In other words, the availability of these capitals together with peoples’ skills, knowledge and creativity represent ‘spaces of possibility’ to enhance access to food.

As some recent contributions of SFPs literature reveals, a focus on livelihoods shifts the attention from immediate consumption towards the additional benefits for families of pupils participating in the programme (Belik and Chaim, 2009). In this regard, SFPs contribute not only to nutritional wellbeing, but overall, they enhance household sustainability until the extent endowments used for consumption can be used or transformed into alternative livelihood strategies. The essential factor here is that by broadening FS interventions from agriculture to access programmes such SFPs, there is a substantial improvement in FS conditions (da Silva, 2009, Aranha, 2010, Takagi, 2010, FAO, 2014a). Moreover, in LMICs, SFP are now considered key components of household safety nets or the transfer of resources to the most vulnerable families in serious food insecurity conditions (FAO, 2013). Central to these accounts is the recognition of institutions in terms of bringing, respecting and protecting entitlements. And, it is here where the right to food comes into play within the access to food conceptualisation.

The right to food perspective maintains that access to food is fundamental human right – i.e. inalienable, universal, interdependent, and indivisible from all other human rights. Put it plainly, the right to food embodies social justice demands because it rejects the idea of food as a commoditised object. It builds upon answering how to provide legal and institutional responses for food insecure citizens – both urban and rural – within the supranational and national political systems (Maluf 2007). Some argue that the right to food goes beyond FS narratives because it possesses a distinct objective in itself: *...a priority commitment to the value of human dignity*, and not a mean to achieve FS (Mechlem, 2004). As de Schutter (2014b p, 6) defines it: *“the right to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensure a physical and mental, individual and collective, fulfilling and dignified life free of fear”*

Due to the fact that these conditions are not accessible to all and are unevenly distributed, the state is seen as the appropriate institution to provide such conditions. Indeed, normatively, the right to food gives weight to states’ political will, social policy

architecture, and food insecurity condition in relation to its capacity to secure essential human rights that can be claimed, defended and protected for all citizens (Nunes, 2008)

Countries adopting the right to food as FS policy orientation greatly, but not only, implement FS strategies based on the following: guaranteeing access to food on daily basis for people on high levels of food insecurity and vulnerable groups; establishing measures to reduce price volatility, while ensuring minimum wages; enabling access to social and health services to the poor; establishing provisions for the protection and encouragement of family farming based agricultural development; and encouraging civil society participation as means to oversee the FS policy cycle, while seeking alternatives to overcome traditional policy lock-ins (Leão and Maluf, 2012). These principles, however, are not easily reconciled at state level if there are low levels of political will, civil society capabilities and financial resources (Aranha, 2010).

More recently, the right to food literature indicates that the right to food policy frameworks generate positives synergies alongside the supply chain – not only the protection of individual consumption (de Schutter, 2014a). This implies that in addition to safeguarding food access for vulnerable populations, other fundamental rights like health, decent livelihoods, gender equality, education and environment can be attained, at least partially, through the food system (Anderson, 2008). In Brazil for instance, a country at the forefront in the design of rights-based food systems, the progressive realisation of the right to food has made explicit the need to simultaneously intervene in multiple domains of social policies (CONSEA, 2010a). This is to say that a rights-based food system demands active work to challenge FS approaches based on productionist discourses. In this way, they can be better understood as ‘means’ to incite changes from livelihoods to social policy rather than an end itself (Wittman, 2011).

Finally, the rights to food literature identifies elements of good practice to achieve FS, such as involving those marginalised communities and excluded groups in decisions about food or food rights. By the same token, there is a call for greater transparency on socioeconomic and political decisions that may increase the vulnerability of people in terms of accessing adequate food. In general, civil society participation in the policy cycle is seen as a vehicle for the constitution of good practices. Meaningful participation, here, is more than sole ‘invitation’ from the government to civil society to design food policies. It refers to the multiplicity of actions that must be developed to influence the formulation, execution, monitoring and evaluation of FS policies and/or basic services in social areas like health, education, transportation and basic sanitation (Casemiro et al., 2010).

In summary, access to food has brought to the FS debate the importance of socioeconomic entitlements for consumers and the distribution of endowments for producers. The right to food brings an important institutional, legalistic and participatory dimension while

providing a sharp critique of different aspects of food systems failures to deliver livelihoods sustainability and social justice. It was shown that SFPs can be part of a food-insecure population set of entitlements while contribution to broaden household livelihoods portfolios. However, only a few countries have incorporated the right to food in school food policies (i.e. Brazil, India, Ecuador and Mexico).

Here, SFPs are seen as a channel to achieve the right to food. In the case of Brazil, for instance, SFPs entail the four requirements of policy designed with the lenses of the right to food (de Schutter, 2014a); it is universal service in that it targets vulnerable food-insecure groups, it improves accessibility while ensuring dietary adequacy and environmental sustainability, and it guarantees democratic participation, accountability, empowerment and coherence in school food policy making (Sonnino et al., 2014a). Finally, SFPs contribution to food access is often evaluated as a consumption matter (see, e.g., WFP, 2013). This potentially passive role of SFP – in relation to other elements and actors in the food system – might be due to the fact that in many countries, school food is primarily an assistencialist programme. Under this scheme, school children are perceived as passive receivers of help, and not subjects of food rights and citizenry.

Food system change approaches to achieving FS

As explained before, at the international level, FS has been approached from two very different perspectives. Productivists prioritise the need for food exporter countries to produce more food for domestic consumption and countries in food deficit. Demand-based approaches, in contrast to the sufficiency narrative, highlight the physical, financial and cultural issues that compromise access to food while pointing out a tendency in agri-food policies to favour economic goals at the neglect of broader social, public health nutrition and environmental demands. Fish et al. (2013) summarise this debate by noticing that current discussions on FS is centred on whether and how the essentially presumed need to expand food production can be reconciled with the wider limits of sustainability. By studying the close but fractured relationship between sustainability and FS, for instance, Lang and Barling (2012 p, 322) forcefully argue that despite the contemporary dominance of productionist FS policies, the “... *the only food system to be secure is that which is sustainable, and the route to FS is by addressing sustainability*”. Pragmatically, these are calls to adopt a more systemic or integrated approach to FS.

Broadly speaking, the call for integrated approaches surface from examining the FS question as an issue related to risks. Conceptually, Mooney and Hunt (2009) argue that several different FS frameworks exist, principally involving hunger, communitarian and risk frames as the basis for social action. In the context of the United States, they argue, risk narratives are a consequence of the vulnerability of agro-industrialised global food chains to food contamination and disruptive intended actions or agro-terrorism. This is because

market concentration, capital dependency, high-technology needs, and centralisation of processing and distribution exponentially decrease the resilience of food supply chains to provide populations with sufficient and safe food. From this perspective, hence, FS responses aim to manage, control and minimise risks, often via more 'high technology' and controllability of food flows (Kirwan and Maye, 2013).

According to Hinrichs (2013), the risk frame may be expanded to capture the systemic and evolutionary nature of the food crisis, most notably through global environmental changes and complexity of the NFE. Some authors, for instance, recall neo-Malthusian fears to infer that climate change and exhaustion of strategic ecosystems would ultimately limit the social capacity to provide food, thus compromising social reproduction at larger scales (Abramovay, 2010). In addition to environmental fears, another remarkable feature in the new risk scenario is the integration of public health nutrition into traditional FS thinking. Indeed, in the new risk frame of insecurities, FS has become of bimodal scope; that is, people suffer on the one hand of undernutrition, and on the other from over-nutrition, malnutrition and diet-related disease (Ashe and Sonnino, 2012). Or, as Lang (2010b p, 95) states, *"all factor(s) in all diet-related ill health, not just hunger"*. In addition, Burlandy et al. (2012 p, 14) suggest that risks should not be simply seen as fears about hunger, undernourishment or suffering from a diet-related illness – they are real threats to life itself. Finally, the assertions that the dysfunctional and contradictory character of industrialised agri-food systems is a major force for peoples' vulnerability in many parts of the globe, and that its structure is not a discursive project but an operational reality to be confronted otherwise the social and environmental costs would be immeasurable, further contextualises the sense of risk and insecurity.

In addition to reframing FS in terms of multi-objective process, there are two main results from the enlarged risk frame for FS; the first being substantial analysis and care of the multi-layered, multi-dimensional and complex nature of the interactions between structural conditions and social dynamics that underlie FS outcomes, and secondly to examine the prospects of new relationships that may bring forth new possibilities for a meaningful paradigm shift – in a word, systemic-. Indeed, Systemic FS proponents use both arguments to explain the contemporary shortcomings of unsustainable food systems to make sense of the food crisis and those practices and normative arguments representing intentional efforts to generate (seemly better) ways of addressing the new insecurities; one that can embrace the entire ecology of the food system and delivers economic, sociocultural, and environmental benefits in a long term perspective (Misselhorn et al., 2012). FS in this context is an outcome, a sort of indicator, of food systems functioning, which in turn are becoming one object of study of both heuristic and relational value in FS

conceptualisation¹² (see, e.g., Ericksen, 2008, Misselhorn et al., 2012, HLPE, 2014, Lawrence et al., 2015)

One major consequence of seeing FS as an outcome is that, in essence, the FS discussions move *from being secure of food to be secured through food*. Anderson (2013), for example, by examining the nature of FS in the US – a country with substantial problems in malconsumption – concludes that effective FS actions explicitly link FS demands to people's health. In addition, he argues that the interconnection of diet and health creates a potent connection between quality and FS, since all forms of malnutrition are the result of interactions between poor diets and food environments (Ashe and Sonnino, 2012). The former represents consumption patterns based on nutrient-poor diets high in saturated fats, sugars, salt or sodium, and the latter represents the reinforcing and interconnected set of infrastructure, institutions and cultural messages related to food, in which people acquire and consume food (Anderson, 2013).

Another powerful example of relating diet quality with food environments and health emerges from literature on food and nutrition security (FNS), where nutrition is defined as the outcome and the process of providing the nutrients needed for health, growth development and survival (SCN, 2004). Initially, a great deal of FNS research focused on underweight children, stunting, wasting and deficiencies of essential vitamins and minerals in LMICs. These assessments concluded that all forms of hunger lead to under-nutrition, but not all forms of nutritional deficits generate from hunger (Monteiro et al., 1995). Specifically, FNS elaborates the influence of age, health and disease on how individuals utilise food for different nutrients, calories and protein (food utilisation).

Later, and in line with livelihood approaches, FNS literature connected households' socio-economic aspects and practices to health outcomes by studying purchasing choices, knowledge and food habits, preparation practices, storage processes, composition of meals and how the food is allocated within the household. One major conclusion of such studies is the strong synergistic relationship between health and nutritional status, whereas public health outcomes of undernutrition are manifested in vulnerability to infections, higher risk of chronic diseases and overall higher mortality and illness. As UNICEF (2013 p,1) recaps, *"... undernutrition is caused not just by the lack of adequate, nutritious food, but by the lack of food, but by frequent illness, poor care practices and lack of access to health and other social services"*.

¹² The shift towards food systems thinking is, for instance, formalised in the Nutrition and Food System 2014 HLPE report. Using language resonating with more progressive views of FS, the report defines a food system as an assembly that "gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio economic and environmental outcomes" (HLPE, 2014 p, 29). Within this interdependence and interconnectedness, external forces condition food access and availability, which at the same time are influenced by the way food is produced, processed, distributed, commercialised and consumed.

The FNS's focus on undernutrition has been recently enlarged to cover the multiple burdens of malnutrition. From this perspective, the nutrition transition is one of the phenomena negatively affecting public health outcomes – i.e., a population shift towards increased levels of obesity and non-communicable diseases (Monteiro et al., 1995). The nutrition transition is also used to describe the replacement of traditional diets, which are largely grain and vegetables based, with energy-dense 'Western' diets, appearing to accompany increases in income and urbanisation (UNEP, 2012). In this context, obesity consolidates as a public health burden as it is associated with high incidence of cardiovascular disease, cancer and diabetes, thus influencing the morbidity and mortality profile of the population.

As undernutrition is linked to structural factors limiting access to food, socioeconomic and political dynamics also influence the nutrition transition. In a comprehensive research, Hawkes (2006) illustrates how globalisation and trade liberalisation, with the participation of transnational food companies, have transformed LMICs' dietary patterns. According to the author, there are two processes that are part and parcel of the nutritional transition in these countries: 'dietary convergence' and 'dietary adaptation'. As countries become more integrated into the world economy, dietary patterns converge with *"increased consumption of meat and meat products, dairy products, edible oil, salt and sugar, and a lower intake of dietary fibre"* (p, 3). Complementarily, dietary adaptation occurs when there is an *"increased consumption of brand-name processed and store-bought food, an increased number of meals eaten outside the home and consumer behaviours driven by the appeal of new foods"* (p, 3), reflecting increased exposure to advertising and the rise of new forms of food retail outlets like supermarkets.

In regard to SFPs in LMICs, the influence of FNS is substantial, especially in the context of multiple nutritional burdens. In addition to the traditional SFP goals, in settings where underconsumption occurs, they aim to provide hunger relief while balancing minimum levels of energy-protein and addressing specific nutritional deficiencies such as vitamin A, iron, and iodine (Vasconcelos, 2005). In addition, several studies report better nutritional and health outcomes of pupils participating in the programme in regions where poverty is overspread (see, e.g., Bundy 2009) LMICs have also used SFP to cope with the overweight and obesity public health challenge. In the case of Brazil, for example, the country has created comprehensive school food approaches to create healthier food environments by increasing the provision of freshly cooked meals, fruits and vegetables and influencing the culture of consumption through nutritional education (Triches, 2015).

Similarly, Morgan and Sonnino (2010a) argue that whole-school food approaches have the potential to embed healthy eating messages while stressing the positive links between food, fitness, health, and both physical and mental wellbeing. In these cases, school food can become an institutional food space to the extent that it influences how pupils make food

choices and how food is accessed, prepared and consumed. Indeed, SFPs mediate diets through the food environment by: connecting people in food insecurity situations to healthy food or increasing the availability of nutritious foods; bringing distribution infrastructure to provide access to adequate food; delivering free or affordable healthy meals that otherwise would be more expensive; and managing messages that guide and promote specific foods and diets as well as student preferences.

As indicated previously, another important feature of portraying FS as an outcome is a move to identifying those practices and normative arguments representing intentional efforts to cope with new food insecurities. Conceptually, this is to assert that food systems' actors, places, communities, institutions and businesses are not passively experiencing the systemic crises, but they can deliberately act to construct and cement collective responses; i.e. the ability to not only bounce back, but overall to "bounce forward" (Blay-Palmer et al., 2016). The normative argument is to make explicit those arrangements showing inconsistency of the hegemonic-corporate food system configuration while discussing the politics of the possible and 'realistic' pathways to deal with the multiple contradictions this arrangement generates. Such a position is noticeably articulated in the work of Holt Giménez and Shattuck (2011)¹³, who, starting from the food crisis and the responses of 'alternative' food movements, identifies three trends called reformist¹⁴, progressive, and radical (business as usual, incremental, and transformational approach).

Progressive or incremental perspective of food system change

The progressive trend associates social justice principles with alternatives to industrialised food systems via collective actions, such as community FS, food democracy or participatory nutrition. Similar to the right to food and livelihood approaches, the progressive tendency points out the structural injustices (e.g., exploitation, marginalisation, colonialism, oppression) and systemic inequities (e.g., unequal distribution of production means and access to endowments) hampering vulnerable groups to become either secure of food or secure through food. Equally, this trend highlights that participation is vital to increase social resilience and to improve the quality of livelihoods. In contrast to them, however, the progressive trend clearly addresses that malnutrition also occurs in urban places and high-income countries. Additionally, it aims to broaden the scope from the personhood rights and livelihoods to their collective formation and assertiveness.

¹³ While the authors do not see FS as an outcome - and rather place it as an integral part of the dominant market-based FS discourse - the progressive and radical tendencies reflect what is in the literature in terms of frameworks of action and its normative or ethical principles that seek structural changes necessary for food systems to be sustainable, equitable, democratic and conducive to FS.

¹⁴ The reformist trend is not considered in this literature review. It is argued that actions aiming to transform FS outcomes do not hold a real potential for meaningful and inclusive food system transformation since dominant players and institutions advancing FS actions remain embedded in (neo) productionist FS discourses.

Indeed, from the progressive perspective, the construction of food systems requires first and foremost emphasis on productive justice through actors' involvement in the process of decision-making, capacity building, communication, participation, and mobilisation of resources (Blay-Palmer et al., 2016). Thus, food rights might be individually granted, yet in the context of remaking the food system, they need to be collectively asserted and expressed through control over decisions, choices and infrastructures. The food democracy notion and actions towards community FS¹⁵ and participatory nutrition¹⁶ clearly exemplify the progressive trend.

Food democracy or *"making food systems accountable to, and for, the public good"* Lang (2010a p, 273) has been developed to conceptualise how food systems might become embedded in civil society, as well as suited to local needs and wants, including decision making over food futures and control over the food system operations. The guiding principle here is that collective efforts to resist, reform, or transform the food system extol the capacity to become familiar with food dilemmas, involvement with other stakeholders and be conscious of the public good (Hassanein, 2008).

Likewise, community FS and participatory nutrition reduce the seek to enhance the capacity of local residents to feed themselves by challenging food and nutrition insecure environments. (FAO, 2012, Anderson, 2013). Because food environments are necessarily place-based assemblies, they become focus and locus for collective action and ethical advocacy. In this perspective, then, it is at the community level where overreaching FS policies or individual rights can be reconciled with the stakeholders' local reality.

Actions taken by the organised community include, among others: empowering communities to effectively demand services and productive resources for implementing food and nutrition actions based on local needs; capacity enablement (ensuring residents know of existing FS programmes, social and health services, nutritional education, income opportunities, etc.); developing a sense of belonging through participation (e.g., participatory appraisal and collective planning methods); support for more sustainable initiatives (ensuring availability of fresh fruit, vegetables, and other whole foods, re-localising the food system, forming alliances between small family farmers (FFs) and residents, improving food preservation and storage facilities, etc.); and policy advocacy (requiring co-ordination among public institutions, charitable organisations, development agencies and food enterprises that can support food insecure groups, advocating for more

¹⁵ Community FS emerged in the USA-city context to describe "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice (Hamm and Bellows, 2003 p, 37).

¹⁶ In the context of LMICs, participatory nutrition refers to people's capacity to define, analyse and act on local causes of malnutrition while building individual and community self-capacity with regard to nutrition (FAO, 2012).

consumption of local, seasonal and organic foods in public programmes such SFPs) (FAO, 2012, Anderson, 2013). Primarily, what this involves is the stakeholders' experience of what works in the ground while creating a sense of ownership and civic sense of renewal of the food environment.

In this context, it is assumed that the emergence of a new food system starts by building a common understanding about the nature of a problem, bringing attention to the problem and then collectively proposing and advocating for solutions, usually within existent market, institutional and civic infrastructures. In this sense, some scholars argue that these islands of good practice tend to focus on market-based responses and local consumer education (such as farmers' markets or best feeding practices workshops), rather than on actions that challenge structural injustices (Weiler et al., 2015). *"Its disconnected nature runs the risk of leaving little structural impact on hunger"* (Holt Giménez and Shattuck, 2011 p, 196).

Other authors emphasise the capacity of grassroots initiatives (such HGSF or FFs' markets) to merge and remake demands for incremental food systems change and democratic control. This is called a 'pragmatic' approach that involves stepwise gains versus dominant forms of producing, processing, distributing, retailing and procuring (Kloppenburger and Hassanein, 2006, Sonnino, 2010). Indeed, one major conclusion gleaned from studying grassroots responses to the food crisis is that community and collective responses can be better understood as a process towards transformation, rather than a transformation itself. As Hinrichs (2007 p, 5) summarises:

"Remaking the food system then suggests neither a revolutionary break nor a radical transformation but rather deliberate, sometimes unglamorous multipronged efforts in areas where openings exist to do things differently...Such activities quietly and modestly remake parts of the food system. Whether pursued by individuals, by groups, or by communities, such remaking is not a linear or foreordained process that possesses some clear, known endpoint. It is instead movement in what is hoped to be a more promising direction. Remaking shifts us from a paralysing focus on what is worrying, wrong, destructive, and oppressive about our current food system to a wide-angle view that takes in the broader landscape, whose troubling contours, we begin to notice, are punctuated by encouraging signs of change"

In addition to the stepwise approach to change, the progressive trend brings to the centre one additional intervention contexts that is often peripheral to other FS approaches – and fundamental in the context of this thesis – namely cities. Indeed, progressive FS literature identifies urban residents to be especially vulnerable to the lack of available healthy and nutritious food (Morgan and Sonnino, 2010b)

In the context of LMICs, poverty and hunger in cities can be as harsh as in rural areas (Instituto da Cidadania, 2001). Increasing urbanisation also closely follows nutrition

transition patterns and concentrates major environmental impacts (e.g., water pollution, waste, consumption of industrialised products) with significant implications for food safety and public health (Sonnino et al., 2014b). Food systems, then, and are likely to continue be, affected by the changes brought about by urbanisation. As a result, the progressive trend identifies urban food strategies as an important place to induce changes in the organisation of food systems, as being increasingly recognised by governments and academics in recent times. In this the school food reform is seen as a part of a range of strategies city governments have at their disposal to encouraging or enabling a variety collective actions, that based on shortening supply chains via family farming agriculture, can deliver both rural development goals and FS outcomes (Belik, 2012).

The radical or transformational perspective of food systems change

The radical trend aims to reframe the narrative from productivist and market based solutions for FS towards food sovereignty (Holt Giménez and Shattuck, 2011)– that is, to consider the broad set of relations that give people the right to define their own agri-food policies while regulating and protecting domestic agricultural production and trade (Via Campesina, 2003). Because, these relations reside within structural and political determinants (e.g., green revolutions, technocratic development models, free trade agreements etc), food sovereignty tenants forcefully advocate for a complete restructuring of power relations within the food system, involving the grassroots mobilisation of peasants towards an alternative agri-food paradigm (see, Table 3). As a result, food system transformational tenants assert that the dominant ideological and institutional form of (neo) productionist FS is not a reliable framework to qualitatively and quantitatively securing food for a large part of the global poor. This is a vision shared by many scholars that are hesitant to endorse FS as a viable master frame able to induce ‘real’ changes in the food system (see, e.g., McMichael and Schneider, 2011, Lang and Barling, 2012, Lawrence et al., 2013b).

Table 3 Paradigmatic presumptions for FS in the transformational perspective

Food Sovereignty	
Nature of food insecurity	Structural and eminently of political character - i.e., Green revolutions and neoliberal FS drives social injustice and marginalisation that are at the center of all forms of food insecurity.
Food	Non-commoditised object. A Human Right, secured through localised forms of production and distribution of adequate food.
Grounding questions	What food is produced/ harvested in the benefit of whom. How and where is food produced/gathered and at what scale? Who produces and gathers what?
Feeding the World	Food access/security through prioritising local agricultural production and protecting domestic markets from dumping/subsidised food imports.
Role of the State	Guarantor of right to food and access to productive resources/ direct involvement in sustainable production, localised distribution systems and protection from external economic forces.
Development proposition	Ensuring rural livelihoods as a precondition for household FS, and building social and environmental sustainability in the production, consumption and distribution of nutritious and culturally appropriate food.
Level of intervention for systemic change	FFs (as opposite to entrepreneurial family farming) participation in decision and governance processes, particularly in the construction of regulatory and legal systems at national level

Adapted from Wittman (2011) and Reardon and Pérez (2010)

Although, this agricultural-centric vision of food system transformations continues to be prioritised in the transformational perspective (Clapp, 2014), its scope of action has extended to cover the interests of other actors in the food system such as pastoralists, collectors, fishermen and urban consumers (Desmarais, 2015). In addition, the initial focus on collective peasantry claims for direct control over formulating food policies has evolved to include consumers' food rights and their role in co-constructing participatory democratic institutions in the pursuance of more control over decisions regarding access to food (Leão and Maluf, 2012). Indeed, food sovereignty-based strategies explicitly endorse the right to food and embrace activities that improve, among others, opportunities for community engagement in reshaping food systems, gender equality, livelihood for FFs, valuing food providers, building knowledge and skills upon nature through transition to agro-ecological production, and regional and local democratic control over food markets.

While the aforementioned commitments are shared in other frameworks advocating for food system change, food sovereignty explicitly advocates for political activism – a radical form of politics that aims at “*dismantling corporate agri-foods monopolies, parity, redistributive land reform, protection from dumping and overproduction, and community rights to water and seed*” (Holt Giménez and Shattuck, 2011 p, 128-9). As Schmitt and Maluf (2010) have widely discussed, food sovereignty is a non-bordered farmers’ struggle against industrialised food systems. From this perspective, then, the transformational perspective is as much as a social justice-based critique of food system functioning as a project where social change might be envisioned and occurs in forms of prefigurative politics – i.e. an evolving organisational form reflecting the society practitioners wants to create (Wald, 2015).

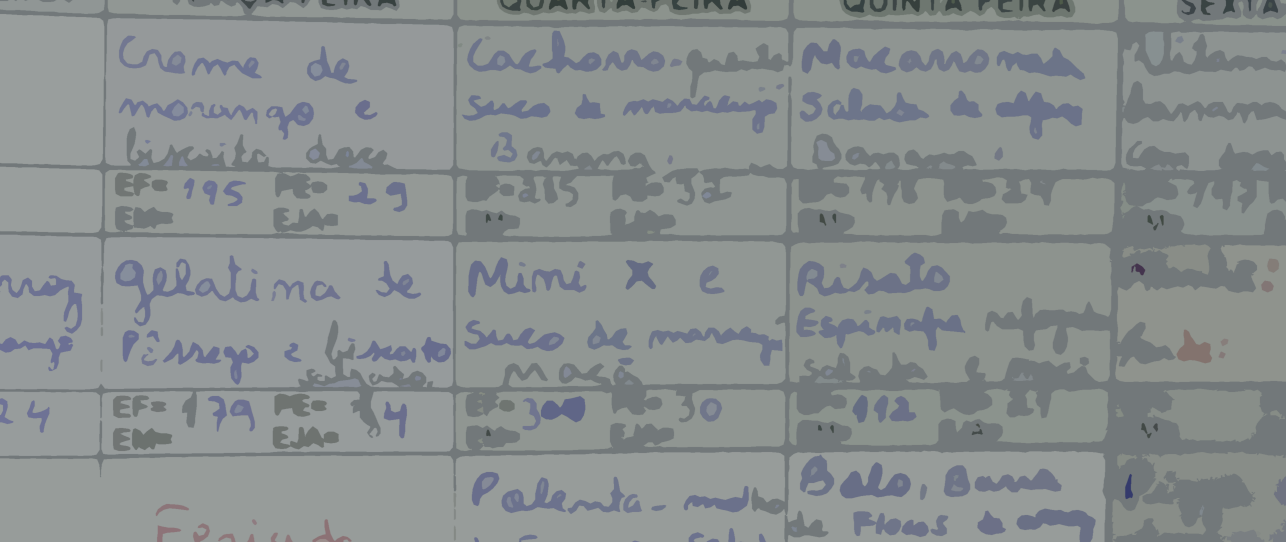
Another important difference with other approaches to change in food systems is that the state¹⁷ is not seen as its source, but as a means to achieve the sovereignty of producers. Indeed, people’s control over the food system is not evaluated from the local endowment’s point of view. On the contrary, is the participation of food insecure groups in making food policies which licenses communities to define their own food production, distribution and regulation systems in a way that protect sovereignty aspirations (CONSEA, 2010a). Likewise, the state plays a central role in the conditions noticed in the literature as necessary to generate direct control over food systems that may include: restructuring access to land via pro-poor gender-responsive redistributive agrarian reform; restricting land markets to ensure that agricultural holdings remain within a specified size distribution; facilitating the generation of agricultural surpluses among the more marginalised groups; fostering of sustainable agriculture through agroecological farming practices; and reorganisation of food markets to connect underserved consumers to smaller scale producers (Akram-Lodhi, 2015). As Wittman (2011) summarises, the food sovereignty movement pushes and pulls for food systems reconfiguration involving an alternative rural development project combined with new forms of state support for domestic food markets and agriculture.

It is precisely in the reorganisation of markets that the state-led school food reform has become a vehicle to mobilise food sovereignty concerns. For instance, in Brazil, a country that channels FS through sovereignty, the state actions involve minimum prices paid to FFs, harvest purchase guarantees, national food reserves, public food access programmes, special credit lines for FFs, procurement programmes, and provision for agroecological transitions (Grisa and Schneider, 2015). Schneider et al. (2010) argue that the

¹⁷ The state function is a most contested issue in the transformative trend. On one hand, it has been extensively argue that the state is part of established neoliberal FS frameworks such as free trade and is the central actor in dismantling self-sufficiency FS programmes (e.g., national food reserves) or universal welfare programmes. On the other hand, the possibility of state action in supporting food sovereignty may be hampered in reality, when oftentimes institutions are not designed to be open for participatory policy making and civil society direct control. These criticisms can be analogously extended to sustainable food procurement, social creation of markets for FFs or the right to food. However, in these three accounts, the state is seen as the guarantor of rights and a source of alternative pathways.

aforementioned provisions ultimately represent the influence of FFs associations and FNS community over the power of the state to generate deviations from the traditional or dominant model of supply-demand relations; that is, restructuring of markets to improve production, distribution and access to food itself. In the context of LMICs, Belik (2016) adds, where rural poverty among FFs is higher than in any other group, the state capacity to contribute to the people's control of the food system is transversally connected, first and foremost, to the question of income generation for marginalised farmers.

Finally, the potential contribution of school food reform to food sovereignty aspirations includes more than the creation of economic rights or contributions to livelihood sustainability for targeted rural populations. As established in recent accounts of food sovereignty, struggles at the consumption side – i.e. nutritional public health crises – are equally an expression of social injustice (Alonso-Fradejas et al., 2015). While this narrative can downplay demands for structural reforms, in the context of SFP, food consumption is pivotal. Here, it is argued that transnational food companies, marketing campaigns and monoculture-based food systems compromise the capacity to decide what to produce and eat (Monteiro et al., 2014). Thus, SFP actions can go beyond of the mere creation of markets, other actions within the SFP, such as the promotion of school gardens, nutritional education and social control, reinforce the sense of collective responsibility when defining production, distribution and consumption strategies (Silva and Schmitt, 2012).



Chapter three: Methodological Reflections

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Chapter three: Methodological Reflections and Research Approach

Introduction

This chapter underlines the ways in which the research is structured, the object of study is approached, and the ways in which knowledge claims are built. In the most basic stance, this is a qualitative research, indicating that the case study is reviewed in the natural settings in which people experience the school food reform. In particular, this study upholds that the school food reform and markets for FFs are processes of social construction in which several communities of interest intentionally enact and transform how school food systems are (re)shaped. Epistemologically, the research locates these collective strategies within the field of interactionism, which holds that meanings of social reality materialises in the constant flow of social exchange, yet they are embedded in the context in which joint intention or joint action occur. Interactions are approached methodologically from two fields of knowledge: reflexive governance, and the governance of practices. They are comprehensively studied in an exploratory embedded case study with multiple units; units that were visited in different intervals throughout a two-year time span. In addition to thick documentary analysis, the research employs participant observation and semi-structured interviews as methods to dig into the sub-units of research. The analysis is carried out interpretatively through thematic clustering and the active participation of the researcher in the reflexive cycle of (re)writing and (re)reading.

Brief notes on the ontological, epistemological and methodological position

A trustworthy research project requires a discussion on the philosophical foundations upon which a research design is advanced, the empirical case is approached and claims are constructed (de Souza Minayo, 2008). According to Schwartz-Shea and Yanow (2013 p, 4), this includes “...the presuppositions concerning ontology—the reality status of the thing being studied—and epistemology—its know-ability”, where methodology in research can be practically seen as an application of both and is grounds for the selection of the research methods.

At the most basic stance, this research is qualitative, meaning that the construction and implementation of the school food reform is not measured or assessed in terms of “quantity, amount, intensity, or frequency” (Denzin and Lincoln, 2011). In fact, and considering the holistic scope of this work, the choice of qualitative research is unsurprising since it does not intend to operationalise the case of school food reform in numbers or quantifiable indicators, in the hope of tracing universal laws governing the phenomenon.

On the contrary, it focuses on studying the social relations that describe its nature, appearance and changes, as well as those that maintain and transform school food systems at implementation levels. According to de Souza Minayo (2008), the study of such qualities cannot neglect the question of meaning and intentionality as inherent in social actions, relationships, and social formations. In this context, this qualitative research reflects ‘a constructivist ontology’, denoting that reality is socially constructed rather than discovered (Spink, 2000).

To say that reality is socially defined is not to say that reality only exists within the subjective experience¹⁸. On the contrary, it asserts that understanding what is out there is a social activity – that is, the shared beliefs about the ‘reality’ and assigned meanings is what is constructed (Liebrucks, 2001). Andrews (2012 p, 42) exemplifies: *“the idea that disease can and does exist as an independent reality is different from the denomination of disease, and in fact, what constitutes a disease is possibly a different social issue”*. In the words of Wicks and Freeman (1998 p, 126): *“...causality may not be in question, description and interpretation are”*

In this context, I maintain for instance that one can find the ‘real’ expression of food and nutrition insecurity (famine, starvation, hunger, diet-related illness, etc.) either in individual or in public health. Likewise, it would be pragmatically inconvenient to dissociate the natural or material from the social, as perhaps there is no clearer example of the metabolic interaction between people and nature than in agri-food systems. However, the construction and organisation (and how they are described) of the food system or security/nutrition concepts, laws, norms, or reform projects are crowded with social processes. In this case, actors and institutions actively participate in the construction of the school food reform norms, practices and infrastructures.

For Cunliffe (2008), this basic epistemological stance (i.e. relativism/realism) might be insufficient for making explicit the philosophy of a research project. The author contends that in the field of socially constructed phenomena, a researcher is usually positioned within a subjective or inter-subjective making of reality and knowledge¹⁹. When a research project is approached subjectively, it is presumed that individuals within social settings

¹⁸ In the literature, this unsettled issue is referred to as the difference between relativism and realism. Relativists argue that constructionism is no more than an approach concerned with the social construction of knowledge; hence, it deals with questions regarding how the perceived world is constructed. Constructionism, then, belongs to an interpretative epistemology, which holds that reality is subjective and emerges in a place where it is inherently linked with the context in which it occurs. Realists, on the contrary, argue that social constructionism can be seen as ontology; thus, it accepts that knowledge can originate from the objective reality and can potentially provide some kind of knowledge about the real world.

¹⁹ Alternatively, the researcher can locate the philosophy of the investigation from the conceptual stories of the process by which social reality is constructed. From this angle, an investigation can be located within a deterministic (no agential properties relevant to the construction), non-deterministic (emphasising the relevance of social agency) and intraminist (those relations formed between the two previous positions).

cognitively negotiate the outer world. The challenge here is to discover how people give meaning to their environment while describing “*the subjective acts of (mental) interpretations of the agents and their schemes of interpretation*” (Reckwitz, 2002 p, 247). In the literature, this subjective narrative is often contrasted with an interactive approach, which holds that meanings of social reality are not fixed or intrinsic to the individuals but the product of located social interaction (Turner, 2008). As Dawson and Prus (1993 p, 113) brightly put it:

“... [interactionists] do not suggest that there is a singular objective or absolute world out-there... [they] do recognize objectified worlds. Indeed, they contend that some objectification is essential if human conduct is to be accomplished. Objectivity exists, thus, not as an absolute or meaningful condition to which humans react but as an accomplished part of human lived experience.”

From the interactionist perspective, then, attention is given either to examining the product of the construction or to the processes leading to such outcomes where people’s interactions or collective strategies presume a reality that is in a constant state of becoming. This research tendentially assumes an interactionist epistemology and embraces that in Brazil, school food systems change emerges from newly-built food and nutrition security systems (institutions, agencies, policies, guidelines, etc.); yet, they acquire material properties and meanings at implementation level, where ‘implementers’ practice the reform in a local context amid symbolic and material barriers or enablers. Both processes are interactive by nature. On one hand, the National System for Food and Nutrition Security (SISAN) is constructed in a participatory fashion between civil society and the state, with an emphasis on processes of deliberation and collective construction of policy principles and orientation (Sonnino et al., 2014a). On the other hand, at the local or implementation level, the school food reform is enacted, re-framed and experimented in joint actions or collective projects in pursuit of desired ends.

Hence, by using an interactionist approach in this research, reference is made to its emphasis on understanding the ways in which people interact and collectively organise school food systems. To study this process, this research employs conceptualisations on reflexive governance which, with an emphasis on meaning-creating of normative expectations, states that while people view the world in different ways, actors interactively frame and negotiate what it is and what it ought to be (the social dilemma, constraints and potential ways forward). These processes of joint intentionality, however, do not emerge or materialise in a vacuum. On the contrary, they surface in the ‘concrete’ and through the actions carrying (new) specific meanings. It is precisely here that the research leans towards a more critical means of finding out ‘knowledge’.

In fact, there is an effort to show that while people jointly construct (and assign) meanings to procurement policies and school food systems, these meanings, beliefs and intentions meet in the *concrete* or the realisation reformist project. Specifically, it is presumed that

joint undertakings are not timeless or placeless, as they occur alongside geo-historical, political, cultural and institutional processes (Carolan, 2013b). In doing so, it places collective strategies within constraints of situational conditions, needs and wants. This kind of concreteness is methodologically approached in this thesis by paying particular attention to the historical development of the school food reform in both policy and implementation levels. As the reader will notice, the thesis is organised in such way that the interpretation and understanding of various historical school food policy events precedes the analysis and writing of the research in the natural setting.

In the natural setting, concreteness can also indicate that participants' empirical experiences in the realisation reformist project can be equally accountable for how the social world is continuously negotiated. As Schneider (2016a) summarises, SFPs are part of the process of social organisation in which relations formed through the enrolment of various actors and communities of interest in the reformist project encounter entrenched arrangements of designing and implementing social policies. While social organisation is in itself an immense intellectual enterprise, in the context of bonding the research to the methodological procedures, the thesis follows a practice-based approach²⁰ or the configuration of actions carrying specific meanings, know-how, and materiality (Shove and Pantzar, 2005). This is to say that normalised procedures, routines, competences and infrastructures play a role in steering people towards certain commitments. In turn, they co-constitute collective or interactive strategies (Shove and Walker, 2007). Methodologically, then, to assume a practice point for the conception of school food reform as a web of practices (the objectified reality) in which organising, innovating, reproducing or reframing the new policy principles and instruments occur amid the intersect between their institutionalised, normalised or routinised forms.

As previously discussed, the constructed links between the status of the reality (school food reform as a social construction), the connections between the nature of this reality, and the research approach (interactionism), methodologically advanced from conceptualisations on reflexive governance and the governance of practices²¹ are an important part – but not the only part – to consider within the overall research philosophy. Another key component in maintaining the trustworthiness and validity of the research is to make explicit the relation between the connoisseurs, *the researcher* and the known (de Souza Minayo, 2008).

²⁰ As further explained in Chapter four, the Brazilian approach to induce changes in the food and nutrition security situation is by intervening in food practices. This is one major contributor to choosing the governance of practices for exploring the school food reform in the city of Porto Alegre.

²¹ It is important to note that these two concepts (and how they are purposefully operationalised) were not defined before the research began. Their meanings and roles in the research were developed throughout the elaboration of this thesis; from the literature review, through the exploration phase, and to the collection and interpretation of data.

From this point of view, the research is developed in an interpretative fashion. Indeed, it is transversally connected with the position of the researcher in qualitative-interpretative approaches, the most salient being: a) people are not understood as objects – they are seen as actively co-constructing their environments (e.g., institutions, organisations, practices, physical artefacts, and symbols); b) they intersubjectively construct and give significance to the “real world” about social events in which they participate; c) interactions occur in a given context signifying that the creation of norms – and practices – are situated; thus, there is not an ambition to generalise knowledge claims; d) contextual understandings are accessed through the direct interaction between the researcher, the connoisseurs, and the known; e) knowledge claims are generated by the reflexive exercise of linking the researcher’s sense-making to particular circumstances, emphasising both abductive²² reasoning and analysis through writing (Schwartz-Shea and Yanow, 2013). At the end, this interpretative approach enabled the operationalisation of the analytical framework, qualified the research design and directed the chosen research. They are presented in the following sections.

Through the Lenses of Governance - An Analytical Framework

Notwithstanding the theoretical bases of this analytical framework, it is the result of empirical observation and abductive reasoning. Moreover, it has been fine-tuned during presentations and the elaboration of this work. Equally, the framework is presented as ‘analytical’ rather than ‘conceptual’, since it is used to build up the discussion following a description of each of the sub-cases studied (civil society-state and the configuration of FS policies; implementing school food reforms in Porto Alegre; and family farmer-led provision frameworks). The analytical framework encompasses how governance is understood and of what it comprises, particularly when approached from the lenses of reflexive governance and the governance of practices. In addition, a heuristic device is fashioned with the goal of integrating these two apparently contradictory approaches into one assembly.

Positioning the meaning of governance

Attention now turns to governance as used in this thesis, which refers to socio-material assemblies enabling, directing, or influencing the making of the reform as well as arrangements at the local level, fostering nexuses of FFs to public school meals. This

²² According to Schwartz-Shea and Yanow (2013, p 27-29), abductive reasoning is a third means of inquiry that does not rely on deduction or induction and is increasingly associated with interpretative methodologies. For the authors, it is a puzzling-out process; abductive thinking begins when in the field and the researcher faces a mismatch between experience and expectations (a surprise/tension) – the latter often informed by prior knowledge. In this process, the researcher seeks to arrive at an interpretation that makes sense of the surprise through the identification of conditions that would make the puzzle comprehensible. Here, possible explanations emerge in the interplay between empirical reality and the body theory being mobilised.

understanding does not aim to side-line FS debates in which governance instances emerge from the relation between discourses, scale and material interventions (Fuchs and Glaab, 2011). On the contrary, the roles of state institutions and school food system actors, together with their normative views and the strategies they qualify or shrink, are present alongside this work. Yet, such governance vision is not the organising principle. Governance is also not explicitly used here in the traditional sense to refer to the architecture of new relations and legitimisation strategies of the government, private sector and civil society, as governments are no longer thought to be the main governors (McKeon, 2014).

The choice to use a simpler definition of governance as assemblies enabling and maintaining forms of collective actions is far more modest, since the sub-cases necessitate the development of a progressive understanding of school food system elements, relations and configurations central to the discovery and support of new directions in the state provision of school food.

This, however, does not mean that governance is treated as the propeller of hope in social change. On the contrary, because it occurs whenever there is an intention to shape and direct development pathways, on many occasions it is pervasive for general wellbeing. Indeed, the interactions within governance assemblies are not frictionless. They involve different interests, needs, wants, normative values, and institutional path dependency trajectories. As shown throughout this thesis, from research design to the discussion, there is a particular methodological emphasis to chart and analyse governance events in way that collective strategies to reform the SFP are weighted against geo-historical, political processes and practices in which they emerged and function. Hence, this understanding of governance leans to what Candel (2014 p, 596) calls 'realist' governance or "*the whole of interactions between actors in a particular institutional context through which they identify and address [real] problems*". Despite the adoption of this perspective, it is also important to recognise that governance, as understood in this study, can be seen as a subset of power relations, yet it is not used to comprehensively represent them.

Second, governance as used here refers to the structure as well as to process-related actions. As structure, governance indicates both the inclusion of civil society in the policy cycle and the way in which these arrangements are organised while identifying the problem and proposing solutions (Berger, 2003, Voss et al., 2006a). This structure may also encompass the legal or formal status (e.g., food council, association, cooperative, etc.) (Roep and Wiskerke, 2012). As a process, governance shows the dynamics which are governed. As such, governance is about both the organisation of relations between distributed provision components (production, processing, distribution, storage and consumption) and activities with the generative capacity to influence how meanings, competences and materiality are put together in a way that is acceptable for those arranging the reform.

Third, governance as a process occurs whenever there is an intention to shape and direct development pathways. From this perspective, governance can represent a set of diverse practices that are constantly created and recreated through individuals' concrete efforts (Bevir, 2013). This is to say that governance is a decentralised activity with potentially countless governing practices (ibid.). Nevertheless, some institutions or groups specialise in steering and directing. In this node, governance can exhibit five distinctive features: goal, or what is sought; target, or what is being shaped; avenue of intervention, or how governors and governed are linked through chains of actions and physical connections; means by which goals are achieved; and scale of the target influencing means and avenues for interventions (Schatzki, 2015). These features can, in turn, be explored by the narratives and practices of relevant actors in the governance nodes first inherited as institutionalised procedures and then revised in response to dilemmas (Bevir, 2013).

Reflexive governance

The concept of 'reflexive governance' presumes that the risks, unpredictability, and uncertainties of modern life require the adoption of governance structures and processes that are informed by self- and social questioning – a concept known as reflexivity (Edwards et al., 2002). Central to this argument is the emphasis placed on 'relational' and 'interactive' (as opposed to hierarchical or horizontal) communicative 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 p, 229), social actors and organisations are encouraged to continuously *"scrutinise and reconsider their underlying values, institutional trajectories and practices"* (Hendriks and Grin, 2007 p, 333) to learn from each other and, ultimately, to identify collective solutions to shared social problems. The question of how actors and organisations engage in these processes of social questioning and reflexive knowledge construction has been approached from two perspectives.

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 modernisation – e.g., the Green Revolution in agriculture and its associated socio-technical regimes (Feindt, 2012); 'second order' reflexivity entails a reflection of the structures and systems that produce and reproduce those unintended consequences in a few words, involving 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 p, 131).

In this inter-subjective representation, identifying problems, finding solutions and explaining the nature of controversies can generate a virtuous circle, where alternative ways of understanding the social dilemma materialise. In this context, Feindt (2012) and Marsden (2013) suggest that reflective governance occurs through: the participation of actors from different levels of government and/or different epistemic backgrounds; the mutual adaptation of cognitive maps and normative beliefs, taking into account the understandings and the alternative frames of the problems; and efforts directed to integrate multiple approaches to problem solving.

The second main approach to reflexive governance emphasises the role of ‘operational learning’ and focuses on the conditions for harnessing and embedding collective capacities in social institutions and organisations. In this context, reflexivity is about the quest for governance structures designed to learn and adapt. As Lenoble and De Schutter (2010) explain, the three models of reflexive governance are envisioned here: a ‘relational-collaborative’ model, in which dialogue, deliberation and participation are emphasised 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).

Notwithstanding the differences between the two major reflexive governance perspectives, they allocate greater prospects of success to governance arrangements that favour interaction, negotiation, collaboration and collective actions (i.e. the constitutive properties of collective capacity building). In simple terms, reflexive governance is about the central role of participation and learning. In this sense, social learning processes are oriented to inform the substance of policy or organisational commitments, rather than to conditioning the modalities for their implementation.

In relation to changes in the food system, Marsden (2013) proposes two ways in which learning takes place in reflexive **governance processes**: adaptation to external incentives (e.g., prices, certificates, alternative frames) without reflection on the evaluative frameworks; and awareness of and change to interpretive frameworks (i.e. re-framing of possibilities). At the more functional level, Brousseau et al. (2012) bind reflexive learning between “setting guidelines of action and operational knowledge” wherein setting guidelines is the result of processes of opening up to different actors’ points of view and interests (i.e. formation of collective preferences), and acquiring operational knowledge, which involves learning about how to come up with workable solutions (i.e. the selection of choices to make decisions and to act upon).

Departing from this distinction, (Voss et al., 2006b p, 433-34) suggest that in relation to capacity building, **governance structures** can take four forms, or 'ideal types'. In the first place, governance actors look for solutions within routine ways to define the problem, goals, targets and intervention means. This 'problem solving with blinkers' parallels another 'non-learn' or 'un-learn' situation: 'erosion of strategic capabilities'. In this arrangement, the governance process is opened up in all dimensions of capacity building by the participation of a large number of heterogeneous actors. This, in turn, results in a diversity of options that erode the capacity for collective action. The third type, 'sequential opening and closing down', is characterised by considering diverse angles, but gradually progressing into the selection and prioritisation of strategies. The fourth ideal type, or 'exploring experiments', occurs when a variety of local strategies are assembled in a portfolio of deliberate experiments. In them, there is no single 'best possible strategy' since it is not feasible to decide a priori what works on the ground.

A key feature of social learning in collective appraisal exercises lies in the importance of intentionality (Kooiman et al., 2008). Here, the focus is on the core motivations for participatory problem solving. According to Stirling (2008 p, 268), the underlying reasons or motivations in collective appraisals involve three functional types: normative, instrumental, and substantive. Normative imperatives advance participation in policy formation as the right thing to do, without reference to the purposes of collective action. In contrast to the normative concerns, instrumental and substantial imperatives are concerned with the outcomes of participation, whereas the design of instrumental valuation has the purpose of achieving particular ends favoured by immediate (often unspoken) reasons; substantive appraisal is intended, in general, to achieve better ends by widely deliberating the social values behind an intervention strategy.

While these functional types can assist in labelling a number of research findings, they can also be used to point out the perils of allocating optimistic values to the governance real (Candel, 2014). Indeed, it is argued that a major weakness of the reflexive governance approach is that it disregards the dynamics of participatory decision making, or allocates expectations beyond what participatory processes can generate in 'complex' socio-material systems (Arretche et al., 2006). In addition to displacement of government responsibilities towards social actors, it is argued that the formulations of some participants may exert control over others, as well as that external forces defining actors' agendas, capabilities, and resources are often not explicitly opened, but rather controlled at other levels (Arretche, 1996).

In this sense, there is a call for reflexive analysis to include issues of social dynamics such as identifying who wins and who loses from a chosen implementation strategy, or what routines remain unchanged (Shove and Walker, 2007, Stirling, 2008). In short, this literature invites recognition that 'reflexive governance' is a provisional approach that can only be

partially inclusive (when there are evermore actors on the social scene), contingent (when conditions are dynamic and not extraneous to human-nature interaction or politics), and potentially unstable as strategies interlink with practices and they evolve over time (Shove and Walker, 2007). In order to avoid these shortcomings, the framework complements reflexive governance arrangements with paying close attention to both the context and the practices through which school food system actors govern the implementation of the reform.

The governance of practices

The governance of school feeding practices refers to those activities, tasks and projects undertaken by any school food systems' actors that have the capacity to influence and coordinate how the elements of practice are introduced, interweaved and organised as to become one integrative practice. They are assembled with the goal to serve other actors outside the governance nodes themselves. This capacity is often related to actors' belonging to socio-material arrangements that functionally specialise in governing activities at one scale different from the located governance action. In the case of Porto Alegre, for instance, this research identifies four governance nodes: family farmer cooperatives, public procurement department, nutritional divisions, and the school food council (Conselhos de Alimentação Escolar [CAEs²³]). Indeed, engagements (or detachments) with the school food reform principles taking in this governance centres have consequences at the consumption and production ends. Now, the conceptual underpinnings of this understanding are subsequently approached.

From a governance perspective, taking the emergence and pathways of social practices to be the analytical assemblage is a very recent endeavour. So far, there are two main positions informing this account. The first holds that all policies, regardless of their approach, already intervene in changing, maintaining and shrinking social practices (Shove, 2015). This position highlights that policy innovations depend on implementation in practice and their sensitivity to people's norms. The second view suggests that policies can directly target practices via: re-crafting practices by changing composition of their elements; discouraging unsustainable practices by substituting them with new alternatives; and changing how practices interlock to form new complexes of practices (Spurling and McMeekin, 2015). Both positions agree that practices are made of components that enable (or constrain) the performance of actions, including images/symbols, knowhow and materials (Shove and Pantzar, 2005). Hence, a central quest to the notion of intervening through the field of

²³ Since 1998, community participation in school food has been part of the SFP governance framework at national level. CAEs are a deliberative and autonomous body that brings together representatives from state, civil society, teachers, and parents of students to oversee budget management and the quality of the school food service.

practices is to understand how they become available and form normalised patterns of people's doings and sayings (Warde, 2013).

The proposition that practices are made of various interconnected elements is to hold that practices are sites (or organised nexus of doings and sayings) where peoples' actions interlink (or are organised) and gain a perceivable 'collective identity', but not in random or disordered way. In addition to firmly supporting and developing this argument, contemporary and well-known practice-based theorists maintain that identifying the elements of practice is fundamental task when developing practice-based research projects (Reckwitz, 2002, Shove and Pantzar, 2005, Warde, 2005). According to the adopted perspective, the components of practice can include practical understandings, know-how, routines, explicit rules, procedures, engagements, goal oriented actions, substantive meaning, discourses, competences, objects, things, items, products, and technology (Gram-Hanssen, 2010).

Hargreaves et al. (2013 p, 405-406) argue that operationalising practices composed of elements is recursively adopted to hold that firstly, practices as collective entities can be recognised through components that are historically, culturally and socially assembled (practice as entities); secondly, saying and doing are moments of action in which actors turn available means or elements into practice, or *"the grounded enactment of practices conducted amid everyday contingencies"* (practice as performances); and thirdly, people and organisations can combine or change elements of practice in a novel or routine fashion. In this way, change in practices can be understood as emerging from the introduction of new elements of practice, the creation of new links between them, or through the breaking up of existing links that hold together components of practice (Shove et al., 2012). In governance terms, intentional 'shaping and directing' of people's actions can be achieved through normalising goal, target, avenue of intervention, and allocating means by which interventions are carried out.

Other authors suggest approaching mutability of practice from coordination attributes (e.g., stronger, weaker) of integrative or compound practices, especially in relation to those which are in formation or contestation (Warde, 2013). Integrative practices are those which are essentially collective in both prescription and evaluation (Warde, 2014). They are conceptualised in antagonism to disperse practices (e.g., describing or explaining) which are performed to the accomplishment of more complex, shared activities (Schatzki, 2002). In this sense, integrative practices are those that can be subject to governance since shared practices require accomplishments of several actors or groups of them. As Barnes (2005 p, 32-33) compellingly argues: *"these are accomplishments readily achieved by, and routinely to be expected of members acting together, but they nonetheless have to be generated on every occasion, by agents concerned all the time to retain coordination and alignment with each other in order to bring them about"*.

According to Warde (2014), integrative practices exhibit at least four characteristics, all of which are clearly identified in research reports on Brazilian school food reform. The first feature is the existence of written instructions or manuals describing how to perform a set of activities, where a significant number of people can decode them. In this regard, there may be no other activity more regulated in the transformation of food systems than in public food procurement and school food (procurement policies, audit procedures, food safety requirements, etc.) (Belik and Chaim, 2009).

The second criterion is that people devote a significant amount of time to an activity, and they can lucidly report the details of their execution. In a study of school food reform in southern Brazil, for example, Triches and Schneider (2010) found that civil society, school food managers and providers dedicate extensive amount of time to participate in governance arenas to deliberately build and cement collective responses while reporting outcomes to several stakeholders.

The third point of reference to identify a practice as integrative is that there are, or could be, disputes with other participants about the standards of what should be considered 'good practice'. In Brazil, for example, there are often disputes over what should be the measurement for contract allocation; for some it is the price/convenience, for others it is local development/quality (Triches, 2015). The last characteristic that determines the character of an integrative practice is the persistence of relations of mutuality between material arrangements. Lozano et al. (2016) emphasise that complementarities between the infrastructures of FFs, the city, and the schools are necessary for the implementation of school food reform, since these spaces of aggregation, transformation and collaboration allow the organisation of food reform in a particular form. Because these four criteria can be observed without difficulty in the Porto Alegre case, this thesis assumes that the school food reform is part of (or has become) an integrative or 'complex' practice; thus, it can be the object of governance.

Integrating reflexive governance and the governance of practices – a heuristic device

In the previous section, the distinctive character of reflective governance and governance approaches have been explored. This section presents a functional heuristic device (see, Figure 3) to draw attention to their complementarities and how they are used in empirical cases. Drawing and connecting these two different approaches, however, does not aim to build a general explanatory framework. On the contrary, the aim is to show the reader how their 'relationships' have been interpreted and examined in the sub-units of the holistic cases presented later on. As argued in the conclusion, this purposeful interlinking provides a more complete understanding of FS interventions in Brazil than taking each one individually.

Reflexive governance deals with the formation of meanings to draft policy orientations or guidelines as well as actors' skills. As explained earlier, participatory appraisal can be conducive to unlearning, first, and second order learning. In the shift from first to second order learning, social actors bring evaluative frames to the decision-making process. For instance, a procurement agent aiming to buy agro-ecological products can rely on the 'agro-ecological certificate' or can question the nature of the different certificates (or buying locally) presented in a public bid. From this perspective, such questioning is often a product of social interaction when actors' presented facts encounter 'surprises' or dilemmas when solving complex problems.

It was also shown that overtime civil society participation in policy-making and the framing of problems and issues could foster collective purposes or engagements where the formation of 'reflexive' capacities, in both public agents and actors, occurs through substantive conversations. In this context, 'reflection' is associated with the exposure of policy lock-ins and opposed to technocrat and institutionalised problem solving. In turn, the outcomes of reflective policymaking²⁴ surface in a collective approach to implement (best) solutions. Hence, an important characteristic of a collective strategy is that it features principles and norms upon which goals and targets are constructed and actions find soundness. Then, they identify and endorse the 'values' that are considered legitimate and that make the governance and organisational life of public offices practicable.

Conversely, 'operational knowledge', or the development of knowledge on solutions, refers to making explicit the design of collective²⁵ decision making at implementation level. Here is where reflexive appraisals encounter the governance of practices – that is, the interplay between collective appraisal and action. In doing so, stakeholders test and filter the applicability of general guidelines, norms and policy orientation in the context in which is deployed. In this intersection, values can be reframed, know-how can be re-examined, and action repertoires can be broadened.

²⁴ In this thesis, interactive policymaking can take place in the public sector (public policies) and in private organisations such family farmer cooperatives.

²⁵ It is referred to as a collective because in the case studied, the city, FFs and civil society engage in planning and organising activities in provision of the school food service.

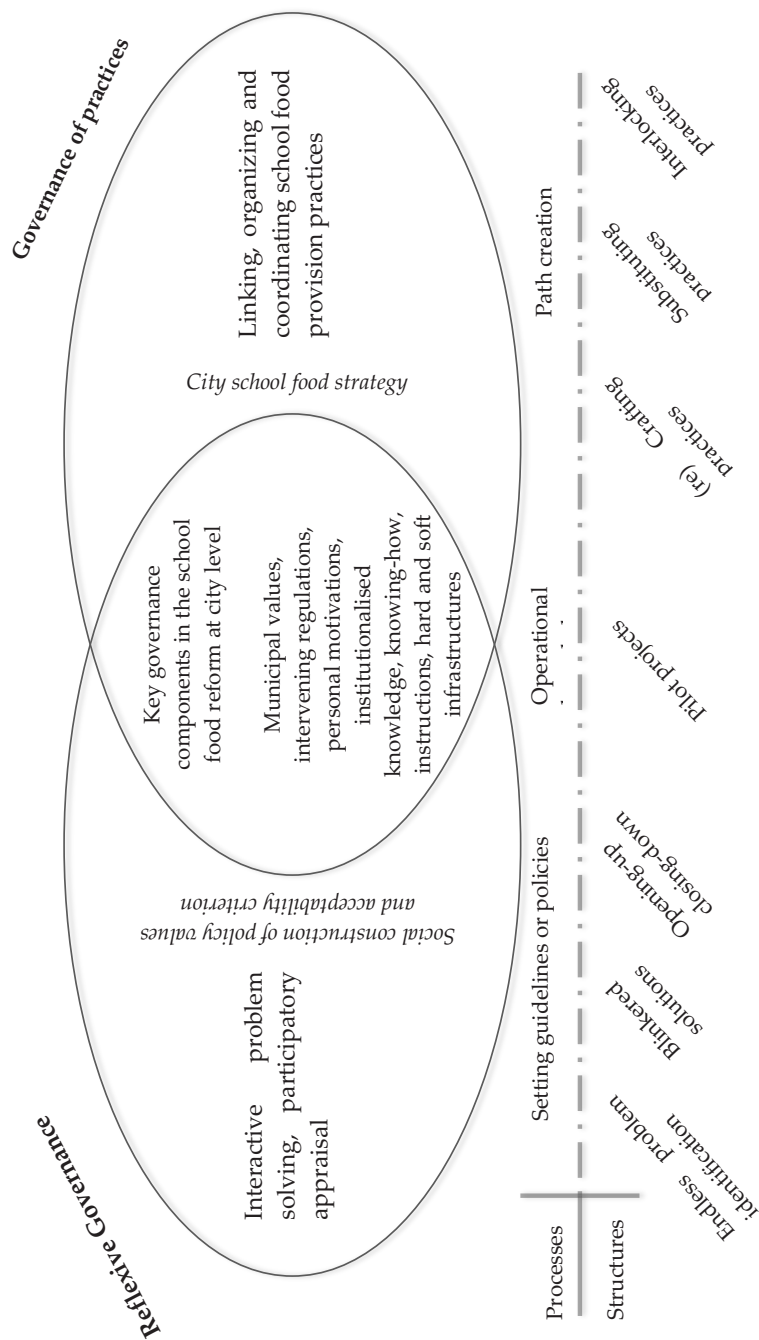


Figure 3 Analytical framework - a heuristic tool

In this sense, the analytical framework takes a pragmatist stance and argues that learning requires engaging with the world, embarking on a search that entails intervening in the nearby context while giving a chance of testing presuppositions and mediating mechanisms either of discursive or material character. Thus, learning from experience means, among other things, that governance can be situated in between general policy orientations, institutionalised (municipal) procedures and emergent actions, and that it definitely occurred during practice. In doing so, stakeholders set novel responses vis-à-vis institutionalised procurement practices, formal nutritional knowledge and traditional forms of evaluating the appropriateness of actions – or the ‘real’ challenges of governance.

This is to say that in merging reflexive governance and the governance of practice, there are two elements of practice that the analytical framework identifies. On one hand, general guidelines for action can diagnose ‘the roots’ (the background) of a problem, frame a solution and normative criteria of acceptability, but operational knowledge is fundamental when practicing policy innovations since being local underpins customs practices and influences the social constriction of context dependent criterion.

The governance of practice literature also brings to the forefront another significant element of practicing the school food reform – that is, the material arrangements in which practices occur or connect to others. In fact, objects and artefacts, either of human creation or ‘natural’ worlds, mediate practices and are fundamental in the performativity of actions (Strengers and Maller, 2014, Shove and Spurling, 2013), hence the consideration in governance efforts. In the context of this thesis, materiality refers to the material arrangements providing the hard and soft infrastructure needed to operate and visualise the school reform. From kitchens, local farms, warehouses, processing facilities, etc. to meeting spaces for building relationships, they produce a ‘nexus for practicing’ needed for the emergence of more sustainable public food procurement approaches (Stahlbrand, 2016).

Regardless of whether procurement of public policies is entangled in the practices that seek to influence, or that they can be designed in order to intervene the formation of elements of practice, its circulation, substituting practices for a more sustainable alternative, or interlinking related provision practices in totally new fashion, they have the potential to create ‘alternative developmental paths’. From the reflexive governance perspective, the challenge is to open up space for path creation. This a prospective vehicle for more effective and reflexive organisational building around ‘real’ demand-supply encounters. From the governance of practice point of view, the challenge is to forge coordination means (including hard and soft infrastructures), linking provision practices (from production to consumption) in a way that is sensitive towards other elements of the food system, as well as to other people for whom shared responsibilities exist to enable practical engagements in reform activities. As previously discussed, both challenges take place in different sites, one at policymaking level and the other at the provision side of the food equation.

Before proceeding to the details of the research design, case selection and methods, it is necessary to emphasise that merging reflexive governance and the governance of practice is not frictionless. One real problem is that as practice-based approaches diminish the role of deliberation and collective decision-making, reflexive governance elaborates upon communication as the site of social relations. Indeed, reflexive processes of social learning and capacity building are conceptually juxtaposed to practices when they are understood as habits. Warde (2014) suggests to reconcile these perspectives after assuming that in everyday life, there are moments of reflexive valuation and deliberation amidst “the default mode of engagement in the world” where habit and routine are normal.

In the context of this thesis, however, this discussion highlights three main points. First, it is at policy or collective strategy-making level where the constructions of norms, principles or meanings take place in the study cases. These guidelines emerge in participatory arenas that put forward desired ends of a series of activities, tasks and projects. Second, the organisation of the school food reform at implementation level requires planning activities. They involve some degree of reflection and coordination. In fact, from designing the menu, the making of public bids, to synchronising supply to demand, these practices are collaboratively accomplished. In this sense, evaluative and feedback-forward frames are put in practice and could potentially be considered the norm rather than the exception. Third, it is the point that “...systemic forms of interventions only have effect when taken up in (and through) practice” (Shove et al., 2012 p, 162), that the meaning of the reform can be grasped from its practical consequences not only from the point of view of the actors, but also in their collective intentions and actions.

Research Design and the Embedded Case Study

While organisationally, this thesis has a ‘complicated initial schema’ weaving together conceptual and analytical background, this section presents the research strategy anchoring the research questions presented in the introduction to the empirical case rationality and then to conclusions. Following Kumar (2005), this section presents two main components of the research strategy: the first deals with the architecture of the operational process for completing the research project, and the second with exposing the rationality underlying research choices. In a common-sense explanation, Yin (2009 p, 27) argues that at the epicentre of the logical plan is the process to move from “*here to there*”, where ‘here’ corresponds to the set of questions to respond, and ‘there’ to the set of answers upon on which claims are made and goals are attained. He adds that between ‘here’ and ‘there’, there are important steps, including determining what is to be analysed, binding the case of research, defining the type of study, and collecting and analysing the relevant data.

In relation to the operational plan of the research, it consisted of an embedded single-case study design with multiple sub-units. This is a one-case study containing more than one

unit of analysis of a specific phenomenon/entity (Yin, 2009). The research consisted of two phases one of exploratory character and the other an in-depth immersion at the access and supply levels of the school food system in the city of Porto Alegre (also see Methods). Because the underlying goal of this thesis is to provide a holistic understanding of processes leading to the school food reform in Brazil, while focusing on the dynamics of linking FFs to school meals. This design is somehow a natural choice since I was not familiar with the research settings.

It was also an ordinary decision given its recognised ability to empirically investigate ‘what’, ‘how’, and ‘why’ questions; the researcher’s inability to control events; its focus on a contemporary phenomenon within a real-life context; and fuzzy boundaries between the phenomenon and context (Yin, 2009 p, 10-11). Furthermore, and by using a variety of sources, the case study proved to be suitable for understanding the dynamics present within particular settings (e.g., social, historical, economic, environmental, etc.) while organising social data so as to preserve the ‘exceptional’ character of the ‘occurrence’ being studied (Kumar, 2005, Simons, 2014). In terms of policy interventions, the case study allows to explore complex relationships between actors, programmes and institutions while supporting the deconstruction and subsequent reconstruction of the phenomena under research (Baxter and Jack, 2008).

The embedded case was developed in an attempt to capture the endless connections between the smaller sub-units or dynamics and the context in which they occur, as well as the movements from one context to another. As shown in Figure 4, they are embedded at vertical and horizontal levels, whereas the movements are captured by means of using the analytical framework. This can be a particularly useful approach when developing an understanding of complex agri-food environments and the governance of practices that people within those environments bring to (re)organising school food systems.

At the vertical level, the research uses the intersubjective perspective to answer this research question:

- What is the nature of changes in the orientation of school food policies in Brazil?

By showing that the new school food procurement law is anchored in the workings of SISAN, this question proved to be worth studying because changes in the procurement repertoire at local level do not fully rely on actors’ capacity to mobilise sustainability values through traditional procurement laws or by the mediation of social entrepreneurs. On the contrary, the new school food procurement law and food-based nutritional guidelines were regarded as fundamental requirements to support local authorities and FFs in the pursuance of more adequate and sustainable school food menus. This vertically ‘embedded unit’, then, permits the careful revision of the relations between the state and civil society

at policy making level, since in many ways efforts tackle entrenched forms of food and nutrition insecurity in innovative ways have emerged at this interface (FAO/IICA/CONSEA, 2009, Kepple et al., 2012).

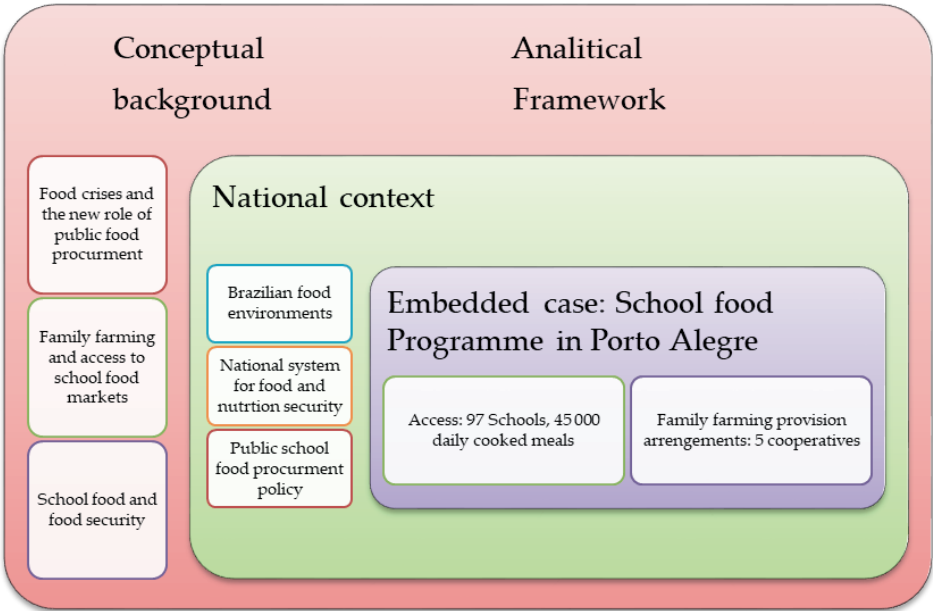


Figure 4 Research design

At the horizontal level, the case study of Porto Alegre, which I described in detailed in the following section, is approached from the governance practices at access and FFs supply questions.

- At the access side, I aim to answer what are the answers to normalised governance practices when school food system’s actors seek to enact school food reform policies.
- At the supply side, I aim to answer how, to what extent, and under which conditions the participation in the school food market of the city of Porto Alegre induce changes in the governance structures, processes and practices of family farmers’ collective devices.

Together the horizontal and vertical levels provided me with elements for holistically-approached changes in school food procurement policies as much as the option to explore actors’ engagements in reformist actions at local level.

Turning now to the logic of the embedded case with various units of analysis, I argued that the vertical and horizontal levels also respond to both the intense exploratory character of

the research and to the intention of facilitating the understanding of the 'Brazilian school food revolution' by using the analytical framework. For Yin (2009) this type of design can be used in those situations where the intervention being evaluated has no formed, clear boundaries, or a single set of outcomes. The overreaching exploratory approach was justified due to the newness of the school food policy and consequently limited information on how it works. In this context, for instance, I initially aimed at capturing and comparing the implementation process of the school food reform in two Brazilian municipalities (Porto Alegre and Garibaldi). Both were considered to be exceptional cases in the Brazilian context, being among the first municipalities to link FFs to school meals. Thus, multiple case studies were planned including one municipality serving 45,000 and other providing 2,500 daily meals.

To do so, I familiarised myself with the available Brazilian literature on the topic of school food and family farming (and related concepts). In addition, I interviewed four school food managers, four procurement officers, and six cooperative representatives. In this initial scanning, I mapped the extent of each initiative and the type and number of stakeholders involved (e.g., schools, departments, civil society, FFs, etc.). In addition, I identified a variety of barriers and enablers to operationalise the procurement of family farmer foods that offered an outstanding opportunity to empirically investigate the 'problem-solving governance realm'.

Because of my overall unfamiliarity with the Brazilian school food reform, a key outcome of this initial exploration was to develop a broader understanding of the options to develop the research. In fact, I concluded that the comparison between these two cases would have tapped into debates on the scale of the SFP - since it is assumed that at larger scales the 'proximisation' of public procurement becomes more difficult to operationalise (see, e.g., WFP, 2009). Likewise, such comparison would be fertile ground to discuss the relative weight of instrumental action and logistical capabilities when closing the supply-demand gap (Izumi et al., 2010, Buckley et al., 2013). The novelty would have been a study conducted in the context of LMICs. Indeed, for participants of the implementation strategy in the two municipalities, other motives were considered fundamental to delink large food suppliers from the provision framework, such as: the strength and capacity of nearby family agriculture; synchrony between school managers and procurement officers/institutional architecture; procurement competences; prospects to engage in collaborative municipality-FFs partnerships; secure supply/demand over time; favourable aptitude of procurement officers regarding family farming and FFs' interest on additional markets; and the existence of family farming cooperatives and contributions to students' wellbeing.

While these motives were advanced in the two settings, in the case of the city of Porto Alegre, school food managers valued them as fundamental to the procurement of food

from FFs. In this context, abductive reasoning served an additional purpose (i.e. learning about the dilemmas of stakeholders when implementing the reform). For this reason, and by using the flexibility of exploratory designs (Yin, 2009), I began to participate in FFs' cooperatives-city meetings aiming to learn about how shortening food chain challenges are dealt with. One consequence of this position was that I began to become familiar with the different governance spaces, or nodes, pushing or pulling the principles of the Brazilian school food reform. Indeed, I noticed the presence of specific 'governance assemblies' and 'assemblers' transforming policy values "*into*" concrete provision strategies. This situation was of course not new for the school food literature in Brazil, as the studies of Triches and Schneider (2010, 2013) show, or at international level (e.g., Friedmann, 2007, Sonnino, 2009b). However, three additional interrelated elements of the school food reform in Porto Alegre made the case one **exceptional**²⁶ 'circumstance' worth studying in its entirety.

In the first place, Porto Alegre is reported to be the first state capital to procure food directly from local and regional²⁷ FFs in Brazil. Opposite to the challenges found in other major Brazilian capitals, five months after the promulgation of the new school food law, the city made its first purchase to an artisanal fisherman association 100% local, and soon after another five cooperatives were integrated into the city's school food provision arrangement. An essential part of this event is the pre-existence of a FFs' associations willing to provide food to schools (chapters six). Although, I describe these collective initiatives in detail later, in order to support the decision to select a single case with integrated units, it is important to note that their sustainability profile goes far beyond being small-scale associations for marketing purposes. In fact, in all but one cooperative, farmers are able to influence or establish cooperative management decisions and economic redistribution norms.

Moreover, if one applied the sustainable indicators suggested by Seyfang (2009) for sustainable agro-food initiatives, they are all engaged in local and regional markets and efforts to reducing ecological food print, community building, acting collectively and constructing new provision infrastructures. Likewise and from conceptual point of view, the studied initiatives move food from farm to consumers in what so called 'nested markets' for rural development (Schneider et al., 2014). In this sense, and to the best of my knowledge before the data collection began in 2012, there was not any other experience of this kind in large Brazilian cities. In addition to this exceptional condition in Porto Alegre,

²⁶ It can be compellingly argued that the exceptionality of the case in this research is identified through abductive reasoning as in this process "...the researcher tacks continually, constantly, back and forth in an iterative-recursive fashion between what is puzzling and possible explanations for it, whether in other field situations or in research-relevant literature" (Schwartz-Shea and Yanow, 2013, p. 27).

²⁷ Scales of local, regional or national in the school food policy are understood from the political or administrative conformation of the Brazilian state where the limits of the city indicate what is local and the limits of the federative units (states) indicate the regionality of a product. Procurement managers operationalise the 'regionalness' as the geographical distance from the place of production to the city limits.

there is a real benefit to having embedded and identifiable sub-units within the overall case, so as to escape from one of the traps of single-cases. That is the tendency of conduct the case at an unduly abstract level in the absence of comparable units (Yin, 2009).

The second exceptional characteristic of the city of Porto Alegre is the size of the SFP and the governance structure of the SFP. On the one hand, the city of Porto Alegre provides access to on-site cooked meals to 55,000 students daily across 99 schools, with some schools being served to 3,000 meals per day to children from six months to 14 years of age. On the other hand, Porto Alegre is the only Brazilian capital with a dedicated nutritional department in charge of the organisation and quality of the school service. From nutritional service coordinators, dietitians, district advisors, and nutritional technicians to cooks, Porto Alegre organises and controls the quality of the service and has become a national example of good school food practices. In addition, while the nutrition department is in charge of a key governance practice – designing the menu – it does not have control over setting public bids.

In fact, the public procurement bureau is a separate body, configuring and setting the reward criteria for public procurement. In relation to community participation in SFP, the city of Porto Alegre has an operational CAE that is actively involved in key steering activities such designing menus and ensuring the quality of the service from food purchase to delivery to pupils. Such a structure allows three embedded sub-units at the access side (nutrition department, CAE and procurement secretariat), yet more importantly it represents a good sample of how normalised procurement practices and school food service practices in the context of a large school food district, for instance rewarding contracts based on low-cost criteria or nutritional food properties, are confronted in different municipal departments when new conditions of procurement or new FS intervention strategies are set at higher levels.

The third element of selecting the SFP in city of Porto Alegre as a unique case is because it has a prior history of innovating when implementing federal reforms. At national level, SFPs in Brazil have experienced three major reforms: the SFP decentralisation, creation of CAEs and immersion of SFP into the SISA. In the Brazilian context, Porto Alegre is an outstanding case since the city is an early adopter of national changes in school food policies, and is thus considered an example of the quality of the school food service (Ação Fome Zero, 2012, Ação Fome Zero, 2009). In fact, after the country's re-democratisation at the end of eighties, Porto Alegre became the first city in Brazil to transform the school food service that, by that time, was provided under the model of national bidding process/large caterer/packed portions. After few years, the model shifted towards city-led bids/nutritional adequacy/onsite cooked meals/food providers. This structure has been maintained over years despite changes in political cycles and administration priorities (see, Chapter five). Comparably, Porto Alegre was an early innovator of buying food from FFs.

So far, however, the literature on school food reform has focused either on the barriers to or prospects of it; yet, how reform processes become normal in implementation bodies remains largely unexplored. In this sense, the city of Porto Alegre could offer a fertile ground to explore processes of normalisation for food system transformation through time (or not) when setting new strategies, for example when bringing nearby producers to school meals, decentralising procurement and democratising civil society participation. Thus, although when studying one case the researcher can lose analytical strength of contrasting/comparing or identifying similarities/differences (Silverman, 2013), it is also possible that juxtaposition can be diachronically approached. This is to say that comparison can be approached from how change occurs over time as well as merely across space. This is not only a requirement of the previously explained analytical framework in an effort to build a trustworthy research; public procurement scholars stress that what comes to be current actions of procurers is linked to what has become 'normal' through the means of institutionalising procurement principles (e.g., competition/cost repertoires).

While the aforementioned elements provide the internal logic for choosing Porto Alegre, conceptually one cannot miss that cities are also poised to be prominent food chain actors (Morgan and Sonnino, 2010b) and urban food systems are increasingly becoming part of the agro-food research agenda. With the exception of the Belo Horizonte (Rocha, 2001, Rocha and Lessa, 2009), for instance, the research on urban food systems reform in Brazil is a case of untapped potential.

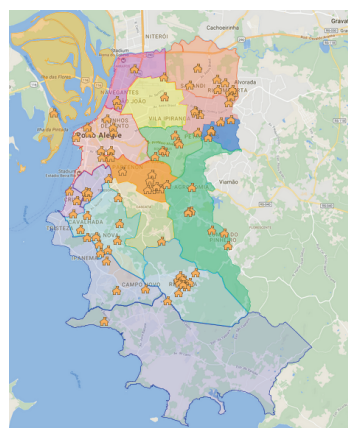
Lastly, and before advancing to describe the embedded units studied, it is also possible to argue that Yin's 'here and there' can refer to the PhD candidate himself. 'Here', in this case, could refer to my genuine interest to better understand the Brazilian SFPs at policy and implementation levels. Contrastingly, 'there' could be seen not as the final destination or the responses to the research questions, but as a process to becoming a skilled agri-food researcher.

Embedded Units

The study case literature emphasises that in addition to defining the type of study and the reasons behind these choices, a researcher should also identify the case 'boundaries' and its purpose with the intention of directing the research efforts towards the original goal (Yin, 2009). Suggestions on how to bind a case study include its spatial delimitation, context-activity reference, and research levels (Roese, 1998). In addition to SISPAN, embedded at the horizontal level and characterised earlier on, at the vertical level the sub-units of study are the SFP in the city of Porto Alegre and family farmer cooperatives providing food for the school food service.



Brazil, Rio Grande do Sul, City of
Porto Alegre



Municipal schools and school
food districts

Figure 5 Location of the city of Porto Alegre, school districts and schools

Brazil, as in many of the South American countries, is an urbanised society where the NFE is profoundly expressed in urban places. More than half of the Brazilian population has lived in cities since the seventies. According to data from the 2010 demographic census, 84.6% of people live in urban areas with 62% living in cities with more than 100,000 inhabitants, and 34% with more than 500,000 (IBGE, 2010). The country's 200 largest cities represent only 3.5% of all Brazilian municipalities (5,570), but they account for half the total number of Brazilian residents and 80% and 70% of the domestic GDP (IBGE, 2015b).

In this urbanised society, the city of Porto Alegre is the tenth largest state capital with a population of about 1.5 million people and a habitation density of about 3,000 people per square kilometre. Additionally, it is entrenched in a large urban agglomerate (Grande Porto Alegre) of 4.5 million people encompassing 34 medium sized municipalities, being within the 100 largest urban agglomerations in the world (Citypopulation, 2016).

In terms of income, education and life expectancy, the city of Porto Alegre ranks alongside the world cities with very high human development index (0.805 HDI), above the national average (0.718 HDI) and within the top 30 Brazilian municipalities. In the Brazilian context, the highest HDI is 0.862 (Municipality of São Caetano do Sul) and the lowest is 0.418 (Municipality of Melgaço).

At international level, Porto Alegre performs at the level of countries like the UK in terms of access to public health, social and educational services. In 2010, the life expectancy at birth was 76.4 years, per-capita income 1,758 Brazilian Reais, and 86.8% of those aged 11 to

13 were in the final years or graduated from elementary school (PNUD, 2013). Moreover, 99.35% of households have access to potable water, 94% to adequate sanitary sewage, and the large majority have access to medical services (ObservaPOA, 2015).

Despite these particulars, when the city considers the costs of income inequality, its HDI can be compared with countries like Morocco (0.602). Indeed, the city Gini's coefficient is 0.6029, and is qualified within the group of world cities with very high levels of inequality²⁸ (Gini t above 0.6). In Porto Alegre, 191,500 (12.8% of the total population) people live on less than half of the minimum wage²⁹ whereas 1.7% of the population have an income higher than 18 times the minimum wage, and accumulate at least half of the city's economic wealth (ObservaPOA, 2015).

In addition to the economic gap, people living in Porto Alegre also experience the other 'urban divides'. Those walking in the marginalised areas of Porto Alegre can easily perceive the fragmentation of the city, making out differences in the way that urban districts are organised. While some neighbourhoods or districts feature well-maintained infrastructure and adequate housing, parks, schools and food outlets, others display deprivation, inadequate housing, poorly maintained infrastructure and insufficient public transportation.

In the case of Brazil, the visible spatial inequalities are an outgrowth of both economic disparities and larger processes of urban development, internal displacement, industrialisation of agriculture, and institutionalised exclusion of specific groups. In hard numbers, city statistics show that 13.68% (192,843) inhabitants live in slums (IBGE, 2010). In these conditions, major challenges arise from the fact that the marginalised urban population depends primarily upon food procurement at the expense of availability of market places and food price volatility (Cohen and Garrett, 2010).

Notwithstanding the economic and spatial city gaps, in terms of 'eating security',³⁰ in 2009 only 2.18% of people were reported to be at severe risk of food insecurity and 4% at mild food insecurity risk. More recently, state-civil society national assessments also placed the city of Porto Alegre outside of the Brazilian 'food insecurity map' (MDS, 2015). Thus, according to FAO standards and Brazilian civil society appraisal, the city can be considered food secured, meaning that the vast majority of Porto Alegrians are thought to be living under eating security conditions. Likewise, anthropometric indices of undernutrition do not show deviance from accepted OCDE limits. While the existence of eating security is a

²⁸ Gini's value of 0.6 or higher places a city or a country within the 'high' inequality bracket.

²⁹ From which 61,149 households have an income up to R\$ 85 Brazilian Reais per month; 10,719 between R\$ 85 and R\$ 170; and 16,325 between R\$ 170 and half of minimum wage.

³⁰ I prefer to use the term 'eating security' because the Brazilian scale for measuring food insecurity (EBIA) is based on the self-definition of households with respect to their FS situation. It particularly collects people's perceptions of different aspects of consumption insecurity; for instance, the fear of not having access to sufficient food or worries about lack of access to an adequate diet due to economic constraints or other means.

point of fact, it is also stated that, in essence, the state's access to food programmes have played a pivotal role in this (FAO, 2014a).

In the city of Porto Alegre, about 50,000 families benefit from cash transfers; 28,000 extremely poor individuals who are elderly or have disabilities receive a monthly payment equivalent to a minimum salary, and 250,357 pupils are entitled to free school food with an average of 10 years' school attendance (ObservaPOA, 2015).. Low-income households report that cash transfers and SFPs are vital endowments of their food access strategies (CONSEA, 2010a), yet as data shows, school food is a long-term intervention. It is from here, then, that the significance of the ethical boundary of the case study can begin to be delineated. Since most municipal schools serve marginalised or vulnerable neighbourhoods, SFPs give low-income families access to adequate food over the schooling years. This means that SFP creates a framework of action towards reducing the city-eating divide between the 'haves and have nots', including safe school menus.

While Porto Alegre's SFP contributes to reduce the sufficiency gap, over the years, overweightness and obesity – the other face of the NFE – has become a public health challenge. According to Conde and Monteiro (2014), obesity indistinctively affects low, middle and high income families in Brazil where more than half of adults have become obese (51.1%) and about one fifth (17.9%) are clinically obese. Among young people, obesity affects 8.6% of children between 12 and 17 years old, being higher among boys (9.2%) than among girls (7.8%). Overweightness (the sum of overweight and obese individuals) reaches 25.4%. For children between five and nine years of age, the prevalence of being overweight varies in the major Brazilian regions: 25% to 30% in the North and Northeast and 32% to 40% in the Southeast, South and Midwest regions. In addition, it is estimated that 7.3% of children under five years old are overweight. These trends indicate that, on average, one in every two adults and one in three children in Brazil are overweight or obese.

In the city of Porto Alegre, this history is no different. On the contrary, it excels most of the Brazilian state capitals. 55% of adults in the city are overweight, of which 21% are clinically obese – a percentage that is above the national average, and one third higher than the one registered in neighbouring Florianópolis, the capital with the lowest obesity rate in the country (14%). In 2008-2009, 33.5% of school age children were overweight and approximately 8.8% were obese (Vigitel, 2013).

Looking at the average Brazilian procurement habits, Monteiro and Cannon (2012) found that since 1970 there has been a progressive substitution of fresh foods (mainly fruits, vegetables, cereals, meat, milk) and culinary ingredients (sugar, oil, salt, etc.) by the acquisition of ready-made (fast food) and ultra-processed foods (soft drinks, cakes, baked goods, frozen meals, processed meat, etc.).

In light of these changes, the well-known Brazilian nutritional guidelines maintained that such substitution has led to higher malconsumption figures and a subsequent public health burden (Brasil, 2014). Moreover, the same guidelines underline that in terms of nutrition, such foods are poor and are conducive to hidden hunger. In this context, the SFP in Porto Alegre aims to tackle malconsumption trends while improving access to adequate diets, favouring the consumption of a variety of *in natura* foods while prohibiting the public purchase of a number of ready-made foods. In fact, during the last decade, the city has increased the offer of fresh vegetables, fruits, wholegrain cereals, legumes and fish while serving, encouraging and promoting the advantages of healthier menus. In other words, the SFP in Porto Alegre also contributes to reducing the gap – and becomes an actionable frame – between those with access to healthier diets and those whose diets rely on process or ultra-processed meals.

Family farmer³¹ cooperatives

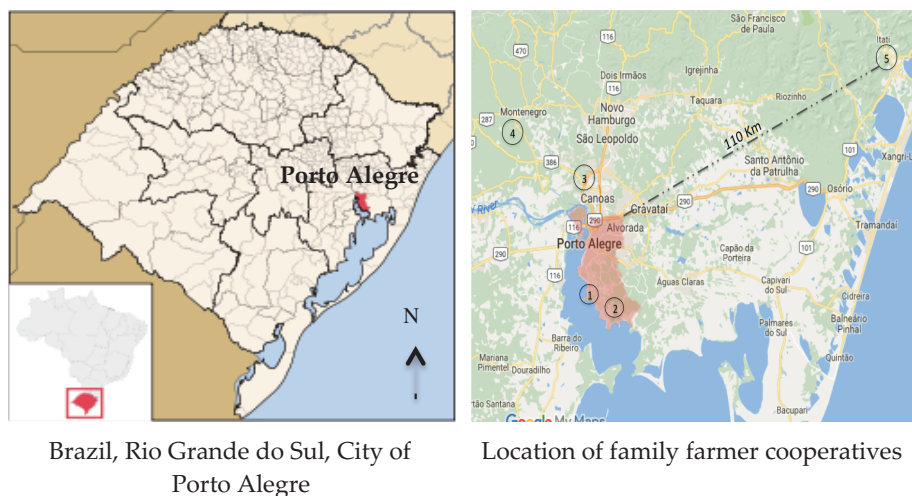


Figure 6 Family farmers cooperatives location

The literature of school food reform strongly signals that a major barrier to linking smallholder farmers to school meals in LMICs is that this effort often begins from scratch³² (Morgan and Sonnino, 2008; Lozano et al., 2016). In this case study, however, this was not

³¹ What the concept of family farming comprises in Brazil is presented in the next chapter. From the moment being, 'family farming' can be understood as a political category created in opposition to capitalist large-scale and export oriented agriculture (*agricultura patronal*). It is composed by smaller-scale landholdings using primarily family labour, including 4.37 million farms that account for 84% of all holdings on 24.3% of the total agricultural area (IBGE, 2010).

³² Challenges often related to the production capacity, complexity of scaled markets and quality requirements. In the case of Porto Alegre, for instance, one journey in the FFs' delivery truck takes about 200km for handling perishables, more than 30 different food products in 99 different schools, during working hours of two or three days per week.

the case. On one hand, the regional food capacity of artisanal producers largely exceeds the regional demand for food in public schools (Fogaça et al., 2016). On the other hand, third party intermediaries³³ or city efforts to structure FFs' associations³⁴ were not required, since their collective devices were assembled before the school food reform. Morley et al. (2008) summarise and argue that smallholders' collective devices enabling access to institutional markets are missed, yet are an essential feature in moving public procurement from traditional cost-efficiency valuations towards more sustainable purchases.

In the case of Porto Alegre, nevertheless, family farmer cooperatives actively provide soft and hard infrastructures and coordinate provision practices on behalf of producers to efficiently and effectively mobilise food from farms to schools (see Chapter 6). Furthermore, cooperatives supplying the city's SFP also have additional aims to the one of turning proximity and source into a market advantage. They support the development of social relationships, learning, and the governance of elements of practice through collaboration so as to enable a fairer re-distribution of public procurement generated gains. In this context, two major implications emerged: one of distinctive/conceptual character, and other from a methodological standpoint.

At the conceptual level, the city's and FFs' efforts are not primarily directed to 'construct' the supply base or build new cooperatives or other forms of collective action. On the contrary, they are channelled to shift the 'balance of competition' between wholesale traders/school meals and FFs cooperatives/school meals. In the analytical framework, this means that the substitute provision practice emerged before the new school food law. Because substituting practices is about changing the means in which particular needs are accomplished (Spurling and McMeekin, 2015), the new school food policy brings the need to purchase more sustainable foods to the forefront, but the means to achieve this goal are to be resolved at the local level. Such a resolution, from a practice-based governance view, holds greater prospects of success when authorities create conditions for desirable practices to develop and disseminate (Schatzki, 2015). Therefore, the governance of substituting practices is about scaling up family farmer-led provision systems and scaling down traditional school food, while scaling out the consumption of family farmer-purchased food.

Methodologically, but equally important, is that all family farmer co-ops supplying food to the city's SFP aim to bypass regional wholesalers, specifically in order to provide decent

³³ On many occasions, large school food districts link intermediaries or 'facilitators' to the SFP who take up aggregation, distribution, processing, and wholesale. Nevertheless, their interest and needs might be not aligned with fair redistribution of gains towards artisanal producers.

³⁴ FAO and the WFP case studies in HGSP assert that family farmer cooperatives are capable of overcoming organisational, logistical, and infrastructural limitations impeding smaller producers to participate in the growing demand of food produced in the proximity (see e.g., WFP, 2009; FAO, 2013; WFP, 2015 reports).

income for FFs. Nonetheless, their very nature is of the miscellaneous kind. Indeed, other meanings for acting collectively in such ecological and social impacts were often encountered during the interviews with various school food managers, cooperative actors as well as during field visits. This striking feature allows for a comparative treatment within the embedded sub-units (family farmer cooperatives), essentially in relation to their shared goal of lessening the constant struggle of FFs' access to markets (and income) and the different governance structures, processes and practices characterising each one.

Some of the FFs' co-ops, for instance, are primarily interested in mobilising resources and managing supply to have access to the market created by the reform. In this case, there are co-ops strictly managed by a core group of FFs and social entrepreneurs where artisanal producers do not enter in the mediation of city-co-op relations, yet they get far higher premiums than in any other city or distant market. Others aim to reconfigure how provision practices are organised while establishing 'new food logics'. In this case, co-ops actively seek to intervene and coordinate how elements of practice are intertwined. Moreover, there are city-sponsored initiatives, as well as federal government supported cooperatives. Thus, having various embedded sub-units at the supply side became an important tool to compare and contrast changes (or not) in the governance realm when the intervention framing shifts from access or demand towards practices.

The selection criteria of the cooperatives began at the exploration phase of the research. This phase revealed that there was a sharp intention from the city to link those collective assemblies with clear social and public health nutrition functions. At the beginning of the process of linking FFs to schools, which happened at the same time as the exploratory research began to unfold (first semester 2012), six family farmer cooperatives were identified and five were selected as sub-units, considering that the collective assembly consists only of FFs³⁵. In addition, municipal reports showed that the five researched cooperatives received 92% of payments done in a special bidding process for FFs between

³⁵ As a holistic case study, it seems inaccurate to talk about the selection of cases. During the initial phases of the research, however, the city procured dairy products from a large family farmer cooperative. By legal definition, a regional family farmer cooperative should have at least 70% of the associates being FFs of the state. In the case of Rio Grande do Sul, there are two large family cooperatives with processing, manufacturing and marketing units evenly distributed alongside the state. They participate in bids for FFs, and in some municipalities, they have access to school food markets. The participation in the separate bidding process for FFs in Porto Alegre is not a management board strategy (phone conversation with cooperative manager). Local representatives, however, obtain bonuses for additional sells, which is the main motive for accessing to the school food market (personal conversation with a sales representative). Although they provide smallholder producers an assured market for their milk, in this structure, FFs cannot influence how co-op income is distributed, how prices are set, or how the material infrastructure is organised. In addition, after realising that these co-ops have equally participated in (and won) the conventional electronic lowering price dispute, school food managers decided not to include them in the public call for dairy products. These are the main reasons by which this cooperative was not considered as an embedded sub-unit.

2011 and 2014. Over the course of this research, another three family farmer cooperatives³⁶ joined the SFP in Porto Alegre. However, they were not visited nor were managers interviewed, since they sporadically participated in public calls for FFs or began to be linked at the end of the fieldwork. What follows is an account of the cooperatives included in this thesis.

Association of fishermen and fish farmers of the far South of Porto Alegre (Associação dos Pescadores e Piscicultores do Extremo Sul [APPESUL]).

Pinpointed with the number 1 in the map, APPESUL is a fishermen association founded in 2009 and organised for the direct commercialisation of fish and fish products in fairs, public markets, and the SFP in the city of Porto Alegre. This occurred in the context of: members' bad experiences dealing with intermediaries (low and fluctuating fish prices); the city's support to re-valuing fish grown in the vicinity; and the existence of a charismatic family farmer entrepreneur who formally articulated the association and made the needed credits to buy equipment and construct processing facilities. Since then, in his 0.5Ha, this fish farmer has become the director of the association. Together with his family, he administers and manages association affairs, centralising interface fishermen-markets in this particular arrangement.

The association is made up of 66 fishermen (54 artisanal fishermen and 12 urban fish farmers). Artisanal fishermen use traditional fishing techniques and fish in small bouts in the Lakes demarcating the city (Lago Guaíba e na Lagoa dos Patos), mainly in the proximity of the of Ilha do Presídio e da Ilha das Pombas. Fish farmers develop their activities in the Lami neighbourhood, raising various kinds of commercial fish in tanks or pounds with supplementary feeding. This literally means that fish production is located in the heart of the city's physical and ecosystem space. In both cases, families complement income generated from fishing or pisciculture with other agricultural or off-farm city jobs; however, for artisanal fishermen, additional income generated through their participation in the association represents a larger portion of their livelihood. Internal valuations of the association indicate that it has directly benefited 200 people. In addition, artisanal fishermen's income increased threefold, signalling the creation of perspectives for the most fragile members. Indeed, the association has a flexible model to receive fish. Some are reported to deliver 100kg of fish per week, and others 1000kg, however when the supply of fish exceeds the selling/processing capacity, the association gives prerogative to those bringing in smaller quantities.

³⁶ They are: COPERTEERRA (Cooperativa Regional da Reforma Agrária Mãe Terra Ltda – Filial Santa Maria, RS) providing yogurt and milk candy; CAFSUL (Cooperativa dos Apicultores e Fruticultores da Zona Sul) providing peaches in syrup; and CAAF (Cooperativa de Agricultores e Agroindústrias Familiares de Caxias do Sul) providing apples.

On average, the association cleans, freezes, stores and adds value to 20 tons of raw fish per month in a unit constructed and operated by one member and his family. After this initial processing, APSESUL sells 9,000kg – 6,000kg as fillet, and 3,000kg as ready to cook fish balls or hamburgers per month. A large part of this production goes to the city's SFP that previously procured only canned sardines as a fish source. Indeed, since 2012, the city buys about 50,000kg of fish annually from the association, and school pupils are provided with local fish two to three times per month. In an average, during the eastern week, the association sells 20,000kg of fillet and 6,000kg of fish balls. The rest of the production is allocated to other FS programmes (e.g., state schools or national programmes to be sold in middle sized supermarkets and others).

In addition to adding value and directly commercialising fish in the municipality, the association has several purposes. It supports producers in meeting food safety and quality requirements when working with animal protein by the establishment of quality parameters and places to fish where fresh water quality is not compromised by the city's industrial or sewerage systems. In fact, they deliberately agree in norms of good production and transportation practices, set quality goals, establish rules for inclusions or exclusions of the group, and devise social penalties for actions damaging the trust on the association products (mostly food safety and quality). In doing so, the association provides the required sanitary permission to commercialise fish at city level. APSESUL also back artisanal fishermen in the proper fulfilment of necessary documentation (and other legal requirements) when selling food to the state. The association also mediates the relation with the state extension services for capacity building activities (e.g., semi-intensive aquaculture techniques) and development of projects for the acquisition of members' equipment (e.g., portable freezers, friendly fishing nets).

The swine growers' association of the Southern region of Porto Alegre (Associação dos Suinocultores da Zona Sul de Porto Alegre [ASSP])

Identified with point number 2 on the map, the swine growers' association of the Southern region of Porto Alegre is a public-private partnership composed of 11 pig producers³⁷, one butcher, and the Municipal Department of Urban Cleaning of Porto Alegre (Departamento Municipal de Limpeza Urbana de Porto Alegre [DMLU]). While the DMLU supplies food waste³⁸ as pig feed and technical assistance, the FFs' association provides the containers for waste disposal and organises the norms for feed distribution. In 2010, the association began to mediate the relations between FFs and the school food market. Previously, they sold

³⁷ In 2015, the association was reduced to nine members due to the departure of three members who sold their properties to urban developers or retired from the activity. Up until that moment, the association was searching for new members in the proximities.

³⁸ In the case of this city-family farmer partnership, food waste is understood as any edible material or by-product that is generated in the cooking and consumption of food.

their production to the regional slaughterhouse. In doing so, a small butchery has been included in the association to prepare the cuts and obtain the necessary permission for the commercialisation of animal products. These activities occur within the municipal limits, meaning that when meat is sold to schools, the consumption and production gap is rather marginal.

The largest family production unit hosts 150 to 200 animals and the smallest 60 to 80. Pigs are traditionally grown, involving, among others: wooden shelters next to the FFs, husbandry of hybrid razes (commercial-native), deep bed litter flooring filled with rice hulls, growing animals up to 120kg, family labour, and producing compost for other farming activities. In 2013, the members of the association reported an income fluctuating between two to three minimum wages. The major activity of the FFs which make up the association is pig production, whose activities are carried out in the southern peri-urban areas. This region is characterised by high poverty levels and social vulnerability (ObservaPOA, 2015).

The partnership of the city-family farmer was shaped in 1992 when FFs living in the peripheries of the city continued to produce pigs as traditional smallholder farmers did. One of these practices included the reuse of household organic residues to aliment pigs either for market purposes or self-consumption. The collection, transport and use of food waste, however, was not totally accepted. They were unregulated activities and horse carriages slowed down the city traffic. In this context, the DMLU pursued a twin strategy, sponsoring the foundation of the association. On the one hand, it began to reuse a fraction of the organic waste from the large kitchens and public institutions, reducing in this way the quantities destined for sanitary landfill. On the other hand, it formalised the producers of pigs through the creation of productive projects that generated income and livelihood perspectives to families that, in general, lived in poverty and policy marginalisation.

Since 2004, DMLU has collected and distributed 11 tonnes of reusable food each day from 73 industrial kitchens and restaurants (51 privately operated and 22 public hospitals). In addition, the DMLU periodically accompanies, trains, and supervises the separation of food waste for animal use in these kitchens. The public part of the partnership employs one project coordinator, two truck drivers, six collectors, one technician, and two inspectors. Pig farmers receive this food waste daily in containers of 100 litres and feed about 1,800 animals. In return, the association hands food baskets to two municipal nurseries nearby. On average, it provides 24 tonnes of fresh meat and meat cubes to the SFP in Porto Alegre per year, and 8 tonnes to anti-hunger federal programmes in the city (Nucleos Fome Zero). The processes of waste reuse and 'local' circulation of food recalls principles of circular economies, to the extent that it places value on waste while prioritising reuse (consumption) at city level.

Marked with the number 3 on the map, COOPAN is located in the agrarian reform settlement of Capela, in the municipality of Nova Santa Rita, Rio Grande do Sul which is part of the metropolitan region of Porto Alegre. The geographical distance from the city to the FFs' cooperative is 45km. While the total area of the settlement covers 2170 hectares and consists of 100 families³⁹, COOPAN is installed in an area of 627 ha where 32 families collectively manage, plan and use this land. In this system, family members are at the same time cooperative associates and workers of the same. Annually, the cooperative reinvests 40% in infrastructure and innovation, leaving the remaining earnings to be divided among the associates' labour hours. In 2013, the cooperative had 67 members/workers who, regardless of activity, are paid on equal terms according to the hours worked.

A fairer distribution of business profits accompanies nuclear organisation of the farming space. COOPAN members live in an agro-villa where they combine living and working spaces, including buildings for animal production, a semi-industrial slaughterhouse and a rice mill. There is no privately-owned capital. Land, buildings and machinery belong to all members of the cooperative. Furthermore, the agro-villa comes with a crèche, a school, a football field, kitchens and dining rooms where members receive subsidised meals. COOPAN also finances housing and holidays costs. Members report that in cash terms, they receive about 1.5 to 1.7 of the minimum wage. Over time, these conditions have substantially improved farmers' livelihoods.

The foundation of COOPAN dates back to 1995, after six years of encampment near the settlement that led to the allocation of (and access to) land by the state as part of a state land distribution programme. In this context, the emergence of COOPAN cannot be delinked from – and is an integral part of – the landless workers' movement (MST) of the agrarian reform programme in early nineties. From the early nineties, the MST organised 28 settlements involving 1,400 families in the metropolitan region of Porto Alegre. Although the MST explicitly incorporates collective resource planning and development – and more recently, agro-ecology – only four cooperatives remain practicing this collective farming system, COOPAN being one of them.

From the collective organisation of farming and step-by-step investments in agriculture, COOPAN became a successful example of both mobilising the strong support of MST and the shortening of provision arrangements. In 2014, COOPAN's harvest consisted of 1.5 thousand tonnes of agro-ecological rice, 26 thousand slaughtered pigs, and 140,000 litres of

³⁹ According to the agrarian reform policy, each family in the settlement has the right of 20-hectare parcels. Settled FFs individually decide the conditions of production, farming styles and the organisation of labour.

milk. FFs also produce vegetables, fruits and fish for self-consumption. Most of the production is commercialised at regional level or in food and nutrition security programmes, particularly the federal food purchase programme (PAA) and SFP. The cooperative allocates 5% of all its production of agro-ecological rice to Porto Alegre SFP, particularly parboiled and integral types that are nutritionally more adequate.

The production of agro-ecological rice started to move away from the commodity market in 2004, responding to health concerns and price crises. In doing so, it started to open a new market that until that time was dominated by intensively produced rice. Furthermore, in cooperation with other settlement cooperatives, a dedicated processing and commercialising infrastructure was established with specific labels. These products are sold in major supermarkets and account for 70% of the organic rice consumed in the country, which improves the credibility of agro-ecological products to the consumers while stimulating multi-layered cooperation at the supply base.

The Citrus Producers Cooperative of Vale do Caí (A Cooperativa dos Citricultores Ecológicos do Vale do Caí [ECOCITRUS])

Pinpointed with the number 4 on the map, ECOCITRUS is an associative organisation made up of 110 FFs. They produce various kinds of citrus in the Vale do Caí. ECOCITRUS's main office is located at the city of the Municipality of Montenegro, which is part of the Metropolitan Region of Porto Alegre. FFs plant around 500 hectares of orchards and manage the cooperative's four operating divisions: the juice industry, organic essential oils, composting-biogas plant and, *in natura* fruits. In addition, the organisation is designed in a way that any member should be able to perform any of the coop's activities – from producing, collecting, and transporting to managing etc. Likewise, the needs of the primary producers prevail over those emerging at the commercial interface of the cooperative, so they have direct influence on most of the decisions taken. This participatory management is a striking feature of the co-op and considered a most valuable asset.

At state level, the co-op is a pioneer in four areas. It was the first collective initiative to receive organic certification in the state. Its main food products are citrus fruits and the juices of oranges, mandarins, guava, and lemons with an annual production estimated at 2500 tonnes. Twenty percent of this amount is destined for school feeding in municipalities within the Metropolitan Region (e.g., Novo Hamburgo, Estância Velha and Porto Alegre). In addition to the cooperative's standard products, the cooperative supply smaller municipalities of the region with other types of food, such as vegetables, maize, beans, and blackberries.

Essential oils are mostly sold for flavouring food and beverages, yet they are not made from edible fruits. The extraction of essential oils uses green mandarins after thinning or fruits

that cannot be sold (or used in production). The production of compost uses both the cooperative residues of manufacturing juices and organic waste of other regional enterprises. In doing so, it provides compost for the associates and generates another product for commercialisation. The cooperative produces 15,000 tonnes of solid compost and 15,000 litres of biofertilizer per year. Finally, but no less innovative, the cooperative uses the gas produced during composting. This by-product is put back into the cooperative transport fleet or sold to industries of the region. In total, ECOCITRUS has more than 200 direct customers for added value products, creating annual revenue of about R\$ 10 million.

The origin of the initiative can be traced back to the early nineties when farmers had begun to question the overspread of small-holder marginalisation and the intensive farming mode predominant in the region, especially the negative effects of pesticides on farmers' health. In 1994, 15 FFs, along with the support of governmental programmes, officially established the cooperative. In particular, an international cooperation programme between the state and the German GTZ gave incentives and technical assistance for organic production, as well as guidance for more associative forms of management.

Since then, members of the cooperative practice small-scale biodynamic agriculture, seeking to develop sustainable agriculture and livelihood opportunities for the local community. Indeed, the guiding principle of co-op development is to contribute to sustainability, and that, according to farmers, means governance conducted through participatory and productive processes which are ecologically adequate, socially just, and economically viable. To exercise these values, members' collective actions are directed to retaining control over the production and commercialisation chains (i.e. production of the inputs, production of novelties, technological adaptations, processing and marketing of production as directly as possible). Over time, ECOCITRUS has successfully delinked most intermediaries in its activities.

Family Farmers' Cooperative of Itati, Terra de Areia e Três Forquilhas (Cooperativa Mista de Agricultores Familiares de Itati, Três Forquilhas e Terra de Arreia (COOMAFITT))

Identified with the number 5 in the map, COOMAFITT was started in 2006 by a group of FFs of three municipalities of the state: Itati, Terra de Areia e Três Forquilhas. Their farms are surrounded by the Environmental Protection Area (APA Rota do Sol) and the Mata Paludosa State Reserve. It is the only co-op that is not located within the Metropolitan region of Porto Alegre. However, in the Brazilian context, 130km is a small distance away and the region is inherently linked to the city of Porto Alegre in terms of food production and provision of environmental 'goods'. The co-op materialises FFs' aspirations to escape from the intermediaries' trap and price fluctuation – that is, the power of middlemen and the regional wholesale market to set paid prices. This intermediary market structure did

not represent a viable option for the formation of fair payments or a way out from the squeeze of family farming which they were experiencing.

Alongside this squeeze of family farming, the federal government opened markets for FFs in food and nutrition security programmes, including SFP. One particular consequence of these new markets was the cooperative strategic focus on institutional markets that account for the vast majority of its revenues even today. Indeed, the cooperative represents FFs' interests to shorten the supply chain while at the same time helping them to organise, manage and plan the provision of food to public food programmes. The co-op, then, can be seen as a result of both government efforts to strengthen FFs and the capacity of actors to act collectively.

Nowadays, the cooperative has more than 170 associated families. COOMAFITT has its own infrastructure to store, process and distribute food to institutional customers. In addition, it has a specialised management team exclusively tasked to attend the particularities of institutional markets and smaller scale producers. The families have small properties, varying from five hectares up to thirty in steep areas. Bananas, tomatoes, and leafy vegetables are the most representative products that FFs produce. However, many of them also produce food for self-consumption, participate in different local farmers' markets or other food chains. In total, the co-op commercialises more than 60 different foods in public procurement programmes, indicating a diversity of cultures at the supply base.

Since the enactment of the new school food law, the annual sales of the cooperative have steadily increased. While in 2011 it sold to public institutions R\$ 820,000, in 2015, the cooperative turnover was about R\$ 4.2 million, representing the provision of nearly 40 tonnes of food per week. Of these amounts, approximately 70% is directly transferred to primary producers who annually set the minimum prices at which products can be sold. The remaining 30% is used for payment of administrative staff, warehousing, and transportation. In addition, this percentage is used as a mechanism to ensure that minimum prices can be guaranteed to farmers which are collectively set once a year. On average, FFs obtain a premium price of 20-30% on goods otherwise sold through traditional intermediaries.

According to FFs, COOMAFITT creates and favours the conditions for the maintenance and wellbeing of their families. This improvement in the quality of life accompanies another important function. Banana producers are located in areas of environmental protection, where they integrate food production and family income with the preservation of a particular biome (Mata Atlantica), an area considered to be fragile and endangered. Many of them have adapted production practices to the forest's needs. This is to say that agro-forestry is deeply embedded into their farming practices. However, the majority of banana production is not certified. As a result, the cooperative began supporting

participatory certification for agro-ecological production in 2012 while being part of a larger network of farmers and organisations thriving towards more sustainable production systems. Today, COOMAFITT has entered the school food market for organic products with food coming from 12 certified banana producers. It was also awarded with the Rural Pioneering Prize in 2010, and Cooperative of the Year Award 2012 in the category of sustainable development.

Methods

Methods are the particular tools or techniques a researcher uses to conduct the inquiry *"with and through which the research design and its logic are carried out or enacted"* (Schwartz-Shea and Yanow, 2013 p, 4). In this research, multiple methods are employed including document analysis, participant observation over a considerable amount of time, and semi-structured interviews. The reason for obtaining multiple perspectives is two-fold. On one hand, it facilitates a multifaceted understanding of the object of research, specifically when capturing complex realities in social contexts (Denzin and Lincoln, 2011). On the other hand, the use of multiple information sources gives the research credibility, especially by adding accountability over knowledge claims being made (Flick, 2008). This combination is conceptually referred to as methodological 'triangulation' or the cross-verification of different data sources to locate similar information and assist to confirm (or not) the knowledge they provide (Patton, 1990).

Using more than one method was also useful in light of the research design and analytical framework. For instance, I was able to extract information about past and current governance structures, processes and practices from formal policy documents, meeting minutes, strategic management plans, as well from and other informal documents such newspapers or the websites of cooperatives and the National Council of Food and Nutritional Security (Conselho Nacional de Segurança Alimentar e Nutricional [CONSEA]). Participant observation let me experience how actors interact in the governance centres and how the organisation of the school food reform occurs in 'natural' settings. In addition, participation in different governance activities help me to build a holistic view of the performativity of governance practices, their elements, and the ways actors shape, link and coordinate an integrative practice.

I attended a number of meetings between FFs and city officials, face-to-face bids, training sessions, cooperative assemblies, and managers' meetings. Interviews and naturally occurring talks assisted in the understanding of the actors' representations of practicing the school food reform. I conducted about fifty semi-structured interviews with key informants in the city governance realm: procurement managers, city attorneys, dietitians, technicians in nutrition, rural extension agents, and cooperative managers. I also talked with primary

producers and kitchen staff on many occasions. The section below describes how, when, and why these methods were used.

Document research

Much of the social interaction that takes place in public food procurement, and similarly in public policy, is mediated by different kinds of policies, guidelines directives, or other kind of 'official' texts (Morgan and Sonnino, 2008). In the elaboration of them, the researcher's part is not included in the 'official' recorded version meaning that they are constructed by their producers, yet interpreted by the researcher to give voice, meaning or contextualities to the case study (Denzin and Lincoln, 2011). They can provide the raw material for an in-depth analysis of the way in which a particular 'reality' is formed and how this acts in relation to the settings in which are employed (Silverman, 2006). Taking the particular case of implementing the reform in Porto Alegre, one can classify documents as external, internal, and complementary⁴⁰.

External governance documents refer to documents produced at other levels different from the municipality, but with influence on how the school food reform is implemented. They involve civil society-government policy documents (e.g., National Food and Nutrition Security Conferences, National Plans for Food and Nutrition Security, Inter-ministerial Chamber for Food and Nutrition Security, CONSEA and SISAN) and official legislative documents (e.g., laws, directives ordinances, minutes, resolutions, nutritional standards, food safety regulations, policy dissemination materials).

In contrast, internal documentation involves texts directly constructed by people involved in the organisation of the SFP in Porto Alegre. They can be seen as both the municipal response to fill the policy/regulatory gaps, and the city's or cooperative's efforts to normalise procedures and coordinate actions in the provision of the school food service. I had access to an extensive range of actors' documentary representations of interactive efforts, including public bids, contracts, city-based manuals of good school practices, CAE's reports or minutes, school menus, inter-department communications, complaint books, etc. Internal documents also comprise cooperatives' documentary expression of joint intention and action (e.g., vision, aims, objectives, action plans, websites, books of minutes and meetings, etc.). In order to enhance the trustworthiness of the research process, I describe in the following paragraphs the method through which these documents were selected.

The first set of examined documents emerged at the initial stages of this research when drafting the research proposal and participating in specialised courses or conferences in Brazil. In this initial phase, I mainly focused on three topics: the evolution of food and

⁴⁰ The complete list of reviewed material is listed in Appendix A.

nutrition security policies and outcomes in Brazil; trajectory of PNAEs; and the constitution of family farmers as a policy category. For each topic, secondary information was identified via a multi-step process, including: the search of key Brazilian authors dealing with each subject; selection of papers by scanning titles and abstracts; identifying key moments of change in any of the three subjects; and key policy documents mentioned in the main text or references.

Parallel to this activity, I began to select non-academic reports on the PNAE in Brazil. These were considered admissible because civil society actors located on the fringe of policy making/activism have published some of the most useful reports on food security policy processes. Here, particular attention was put towards avoiding falling into the embedded interests of such reports. For this, the information was verified with academic reports and special attention was paid while focusing the analysis on moments and reasons that the civil society actors consider critical for the changes in the PNAE. As a result, given the intention to understand the nature of the school food reform, the analysis of these documents aimed to reconstruct changes in the national policy discourse on school feeding and food security while identifying the motives that gave rise to them.

A major outcome during the first phase of document selection allowed me to identify old and new government produced documents like constitutional articles, policies, directives and other forms of formal documents containing rules. They were grouped according to the three topics aforementioned while making comparative tables between old and new: policy values, goals, target, means, avenues for intervention and institutional architecture. In turn, the exercise of collecting and analysing external documents became the basic input for the construction of the third chapter.

While external document selection and appraisal were mostly based on desktop work, the selection of key internal documents was interactively constructed with the help of stakeholders on the ground. Indeed, during the interviews and participant observation, they were asked about what federal or city documents they used in the design of public bids and school menus. If a given governmental document was not available in the corresponding federal or city homepages, school food managers kindly provided them. I also had access to many of the city and cooperative documents during my days of participant observation at the nutrition department.

Likewise, documents in relation to the coordination of the school food service (e.g., manual of good sanitation practices) were put together during interviews or initial phases of participant observation. In addition to this subgrouping of norms/protocols, special attention was placed on values, targets, and avenues for coordinating multiple practices, including collective norms emerging from interactions. This information shaped data collection during the second set of interviews, to the extent that some of the guiding

questions for the second round of interviews (more detail below) were framed to both corroborate some preliminary findings and cross-check emerging claims with stakeholders while still in the field. Documents in relation to the cooperatives were collected during field visits, but it was not always easy to conduct face-to-face member checking (Birt et al., 2016).

So, in order to enhance the trustworthiness of the research, I also examined external documents (documents that are not part of the city's school food strategy, cooperative governance approach or federal regulations). They were used to further contextualise the field of research and to critically appraise the material obtained through documentary and empirical research. Through complementary documents, for instance, I gathered data provided by national bodies in charge of statistics to explore the impacts of key policies and legislation. Secondary empirical and analytical material from the state, CONSEA, SISAN, CAISAN, Extension Services (EMATER-RS), non-governmental organisations (NGOs), international organisations, and Brazilian academic literature were used to complement or contradict some findings. Finally, I also studied written texts such as newspapers, food and nutrition security websites and cooperatives' marketing materials to gain insights into how the sub-units presented themselves to the 'outer' world and which issues were considered important (or side-lined).

Interviews

Interviews are special forms of conversations designed to generate empirical data about the case study by asking people to talk about their lived experiences (Holstein and Gubrium, 1995). This method is regarded as bringing substantial benefits to qualitative research, since it offers the opportunity to explore the points of actors, revealing evidence about the nature of the phenomena including the context and situations in which it emerges, as well as, the meaning and perceptions that they have with regard to the world (Miller and Glassner, 1997). While they assume different roles and forms (e.g., structured, standardised, quantitative surveys, open-ended, etc.), most of the interviews in this work were semi-formal guided conversations or semi-structured interviews with open-ended questions (Patton, 1990). This method was chosen as most of the interviews were carried out with actors with operational knowledge either at the access or supply sides.

In the first stage of the research, I conducted fourteen semi-structured interviews with key informants at municipal, civil society, and supplier levels. Most interviews were conducted from March to June of 2012 and did not take longer than one hour. The entry contact was the school food manager in the city of Porto Alegre. With her assistance, I got an overview of the SFP in the city, main stakeholders engaged in the school food reform and their roles. A list of key informants was obtained to whom I contacted and scheduled interviews. In this phase, the goal was to build an overall understanding of the implementation of the school food reform, therefore the designed set of the questions were divided in two main

topics. The first group of questions aimed to get a picture of actors' understanding of the school food reform as a whole. The second section addressed particular challenges faced by actors when linking supply and demand. There was also a variation questions varied according to each embedded unit. For instance, questions to procurement director were constructed to capture the differences between conventional tendering processes and tenders for FFs. Question to the school food director were designed to understand the process of implementing the school food reform, as well, as the history of the city school food programme. In relations to cooperatives managers, the goal of the interview was to construct an overview of the barriers, enablers and perceived benefits of linking FFs to schools. This allow me to build an initial understanding the motives of participating in the school food markets as well as the barriers and enablers to entry.

At the city level, I conducted four interviews, including the procurement director, school food manager and two dietitians in charge of a school district. I also interviewed six representatives of the cooperatives in charge of institutional procurement. . In addition, I interviewed 'external observers', including one rural extension agent, city food safety agency director, the coordinator of the Municipal Centre for Sustainable Food and Nutrition Security (Coordenadoria Municipal de Segurança Alimentar Nutricional Sustentável [COSANSJ]) and the director of the Collaborating Centre on School Food and Nutrition (Centro Colaborador em Alimentação e Nutrição do Escolar [CECANE]). With the consent of interviewees, all interviews were recorded and transcribed.

The second set of interviews was conducted with a diverse range of actors that had been identified during the first round of interviews and participant observation described in the next section. In total, 46 interviews were carried out. Interviewees were selected on the basis of occupational roles in governing the school food reform, personal interests with transforming city-family farmer relations, and key practitioners linking dispersed practices into a coherent chain of actions. This selection included three people at the city attorney office, three auctioneers, two coordinators from the nutrition department, six school food district dietitians, eight nutritional technicians, four CAEs members, 12 cooperative members in charge of school food provision activities and three extension agents. The following table summarises the different categories of people interviewed during the first and second round of interviews.

Interviews were transcribed and extensive field notes were taken when talking to kitchen staff and primary producers during field visits. These interviews took place from August to November 2013. The analytical framework in this case already influenced questions, hence, in addition to questions regarding barriers and enablers of the school food reform and legislation interpretation, they focused on additional four aspects: history of their roles/initiative; meanings of participating in the school food reform; key infrastructure; and lessons learnt through participating in institutional markets or PNAE.

Table 4 Overview of categories of interviewees and number of interviews

	First round of interviews	Second round of interviews
City level		
Procurement director	1	0
City general attorney office	0	3
Auctioneers	0	3
School food director	1	1
School food dietitians	2	6
Technicians in nutrition	0	8
CAEs members	0	4
PRRO managers	1	2
Suppliers level		
Cooperatives' institutional market managers	6	5
Cooperative director	0	3
Logistical coordinator	0	2
FFs	0	6
External observers		
COSANS director	1	0
CECANE director	1	0
EMATER extensionist	1	3

When doing the second set of interviews, I used a general guide with some pre-established questions, which were designed to establish the comparability between the subunits studied. Each guide was adjusted for each case and type of respondent to incorporate relevant context and actor differences. This process could be described as having a master interviewing guideline while fine-tuning questions to the specific audience. Appendix B shows a sample of the general topics and some of questions made to stakeholders.⁴¹ Although these core aspects guided interviews, in this phase of the research many interviews were conducted in conversational tone rather than a formal set of questions. This was because on many occasions new themes arose during the interview. Likewise, respondents had already answered questions in advance when referring to other topics.

Participant Observation

At the general level, participant observation presupposes that one cannot study a social phenomenon without being part of it (Silverman, 2006). Conceptually, participant

⁴¹ The interview protocol presented in Appendix B is designed to give an overview of what themes and questions guided interviews. This summary is necessarily incomplete as questions were adapted and fine-tuned during the interviewing process.

observation stands for the process of “...spending long periods watching people, coupled with talking to them about what they are doing, thinking and saying, designed to see how they understand the world” Delamont (2004 p, 218). It consists of following people’s doings as they happen in real-life situations, either as individuals or in their interactions with others (involving material objects). While most field work in agri-food studies includes participating and observing, the method of itself requires recording information about those events and inferring insights into what is going on (Yin, 2009).

In practice-based field research, observation is often used in combination with interviews. Ideally, participant observation helps the researcher to make sense of the complex relationships between what is articulated in the narratives of actors, (re)interpreted in the scholastic exercise, and the practiced realities (Nicolini, 2013). Schatzki (2005 p, 476), for instance, maintains that understating how people practice organisational phenomena requires substantial “*participant observation: watching participants’ activities, interacting with them (e.g., asking questions), and — at least ideally — attempting to learn their practices*”. This can enable the identification of actions belonging to practice-arrangements bundles and how they interact, compete or cohere within the organisation and potentially along integrative practices to which they may belong.

Indeed, participant observation was very useful when identifying different ‘regimes of actions’ in which municipal actors arrange the school food reform, their tensions and combinations, governance centres, mediums as well as stakeholders, what means people employ (materially or discursively) to perform governance actions and the different levels of commitment/engagement with joint action. In addition to these outcomes, through participant observation I also became familiar with an unknown culture and environment while gaining an understanding of what may be happening. Talking to people turns out to be an important source of information in the construction of interview guides. And, of course, it was a source of joy when conducting the research.

Observations were carried out in three main settings: the municipality, CAEs meetings, and FFs’ cooperatives general assemblies and provision procedures. During the observations, field notes were taken, consisting of direct quotes, details of the situation, and photos.

In the municipality, I had the unique opportunity to be beside the office that managed the school food system for a period of six months – namely, the nutrition department. During this time, I had open access to talk to people, revise archives, to participate in the elaboration of school menus, be part of training meetings, join internal meetings or simply spend a day in the city warehouse when suppliers delivered food. Two specific participant activities contributed greatly to the development of this thesis. On one hand, I was at the negotiation table when family farmer cooperatives and the city began to construct relationships and develop joint strategies for the provision of the local food.

On the other hand, I increased my understanding of how the governance of food access is organised. I was able to join in various occasions' school districts dietitians to visit about 30 schools. In these visits, I could observe the interactions between nutritional technicians, dietitians, kitchen staff and school administration. Moreover, I became acquainted with the complexities of providing safe and nutritious food on a large scale, including ways of storing, cleaning, cooking, presenting, serving and coordinating lunch times with school activities. It is important to note that although I visited many schools and participated in lunch periods, interviews with students were not possible.

Observations in the procurement office did not take place. The presence of external parties is not legally allowed, especially because of the sensitivity of information when setting public bids. Despite this, I attended about 12 face-to-face tender processes (*pregão presencial*). In these specially designed tenders for FFs, I experienced the deeply rooted values of cost and competition in the city procurement culture. In contrast, I was able to observe the different ways that FFs frame access to market claims. Lastly, through these public bids I got to know family farmer cooperative managers who, together with the assistance of the school food manager, were fundamental to the establishment of contacts and opened the door for field visits and interviews on the supply side.

During my time in with the nutrition department, I was also fortunate to participate in the monthly meetings that CAEs organise. In the exploratory phase, I attended four meetings and in the following year I participated in eight. I regularly participated in CAEs meetings while observing how interactions between civil-society and state occurred, how participation can derivate in empowerment and what the tensions, challenges and obstacles to 'co-produce' norms and values are when pursuing new pathways of coordinated action. It was also a good opportunity to observe the ways in which the city presents the SFP the broader public. Lastly, to my conversation with CAEs members, I identified key stakeholders mobilising the reform with whom I subsequently interviewed.

Field visits to the cooperatives were less intense and more scattered in time. They focused on three governance aspects identified in the first round of interviews with their managers: general assemblies, training events, and provision schemes (classification, collection, maturation, processing, and distribution of food to schools). In addition, I conducted specific field visits to identify the soft and hard infrastructures which the cooperatives have at their disposal for enabling the aggregation of family farmer foods. While I could not take part in every one of these activities in each of the cooperatives (see, Table 5) as on many occasions training meetings and assemblies are of informal character, during participation in these events I was able to perceive the function of integrating various provision practices. In terms of frequency, with the exception of field visits to get to know cooperatives' infrastructure, I participated in each of the activities on two occasions – one during the exploratory phase and another the following year.

Table 5 Sample of field visits

	General/board meetings	Training meetings	Provision Schemes	Hard and soft infrastructure
APPESUL			✓	✓
ASSP	✓		✓	✓
COOPAN	✓	✓		✓
ECOCITRUS	✓	✓		✓
COMAFITT	✓	✓	✓	✓

Some notes on the reading of data

As previously stated, the use of multiple methods received much attention in the case study design by combining prolonged engagement in the field, interviews and document research. What follows is a brief explanation of the different interpretative techniques employed in the production of the textwork.

Yin (2009, p.127) argues that there are no fixed formulae of analysis for case studies and *“instead, much depends on an investigator’s own style of rigorous empirical thinking, along with the sufficient presentation of evidence and careful consideration of alternative interpretations”*. Pragmatically, analysis begins before data is collected, often goes hand in hand with fieldwork, and continues in the production of the textwork (Schwartz-Shea and Yanow, 2013). For these reasons, collection and analysis were carried out simultaneously in order to learn from the fieldwork and use abductive reasoning to funnel the research as interesting events became visible. For instance, as already noted, during the exploratory phase and initial analysis, the polycentric governance structure of the school food reform and the state intention to intervene in the field of practices became evident. Likewise, it was through participant observation that I gained access to the governance centres, which in turn steered the research in that direction. In this sense, it followed an ethnographic strategy, to the extent that the research is progressively focused over its course (Silverman, 2006). While this type of strategy has been criticised on the grounds that it does not resemble an analytical funnel and the research can tend to become more ‘anecdotal’ (ibid.), in the course of the fieldwork I had the opportunity to compare the workings of different municipal departments and city cooperatives. According to Delamont (2004), this apprising through contrast, then, becomes a useful tool to learn to thrive between perception and analysis.

In addition, a substantial portion of analytical effort was conducted through writing. In fact, participant observation, interviews and feedback from school food experts or coauthors was woven in a particular style of writing, in this manuscript or other published papers. A journey that cannot be uniquely expressed in terms of ‘thick’ and ‘funnelled’ description, it stands for explicitly acknowledging that writing itself is part of making sense

of data, expressions, impressions and interactions. (Yanow, 2009 p, 278) refers to this analytical approach as *“the third interpretive momentum in the hermeneutic circle;⁴² when crafting the textwork, the researcher presents together fieldwork, interpretations and claims with an audience or epistemic community in mind”*. In this sense, writing becomes a reflexive device and a learning field to look for connections between the empirical, the researcher, and the ‘outer world’ that ultimately helps to deconstruct, construct and channel broader arguments into a coherent piece – that is analysis (de Souza Minayo, 2008).

Reflexive writing was complemented with more ‘formal’ techniques like thematic clustering and coding. All interviews were recorded and transcribed. In an excel file, I created spreadsheets containing answers on the specific questions from the semi-structured interviews. Field notes and documents were equally uploaded into the different enclosing questions. Subsequently, I manually assigned categories and codes to interview transcripts, field reports and documents (Miles and Huberman, 1994). Flick (2008) refers to this process as the exercise of abstracting data from its original context while contextualising them into new structures based on theoretical frameworks, concepts and ultimately within research questions.

The general categorisation follows a general division marked by access and supply thematic issues. This allowed, for example, a guided focus on the history of school food provision practices, governance styles and how the interviewees present them. Later on, codes were assigned following the general components of the analytical framework (e.g., norms, motivations, operational knowledge, etc.). Here, the focus was on trying to understand how elements of practice and complex practices come together, particularly when performing certain interactional activities (designing menus, for example). After these exercises, and in a more open way, crosscutting themes and patterns were sought. In other words, I looked at the data without the predefined codes in mind in order to seek alternative explanations and not be entirely encircled by the analytical framework. Then, part of the analysis was a shift from deductive analysis (i.e. the analytical framework) to inductive analysis (i.e. creating notions) (Flick, 2008).

⁴² The hermeneutic circle is a way of describing the sense-making processes during interpretations of phenomena and data as developing within epistemic communities. Methodologically, it can be seen to constitute three interwoven phases. The first phase “belongs to those we are studying – the so-called actors in the situation (their interpretations of their firsthand experiences). The second hermeneutic is the researcher’s interpretations of situational actors’ interpretations as we participate with them, talk with them, interact with and observe them, and read (literally or figuratively) their documents and other research-relevant artifacts” (Yanow, 2009, p.278). These two phases are referred to as the double hermeneutics (Giddens’, 1984 p, 20) and aim to increase the awareness that the researcher’s meaning making process is not constitutively separated from the interactions he experiences and concepts one employs to understand/describe a situation. In the context of this research, they could well be used to describe the different interpretative momentums I experienced during the conduction of this research. Indeed, the research outcomes of this thesis have emerged from the multiple interactions – verbal and non-verbal – with the school food reform actors, as well as countless internal conversations and meetings with supervisors. However, these double hermeneutics were not purposefully used to construct knowledge claims or strengthen the authenticity of the research.



Chapter four: the Emergence of Reflexive Governance Environments

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Chapter four: Understanding the Emergence of Reflexive Governance Environments: The State, Civil Society, Markets and School Food⁴³

This chapter aims to answer what is the nature of the school food reform in Brazil by studying changes in the orientation of production, consumption, and food security (FS) policies underlying the guiding principles of the school food reform in Brazil. Methodologically, the chapter explores the vertical sub-units exposed in figure number four.

Introduction

As stated in the second chapter, there is a consensus that the intensive or productivist food order is inextricably linked to the unsustainability of the food system. It has also been shown that this order is nowadays characterised by a meso-level structure which, based on a dominant market position of few transnational companies, specialised knowledge arrangements, and modern supply chain logistics, exercises ‘control over’ production and ‘control of’ minds, mouths and agri-food markets (Lang, 2010). In the literature, one often finds these meta-narratives in reference to food empires, corporate food regime, intensive food regime, industrialisation of food systems, etc. Often depicted in an hourglass form, this framework has been a potent conceptual tool to understand the nature of today’s food systems crises and social responses, including sustainable food procurement, food city strategies, and short food supply chains (Wiskerke, 2009).

While in Brazil the food system crises follow major global trends, the meso-level conceptualisation might be reworked to analyse the nature of the school food reform in light of two main issues. Firstly, at the production side, Brazil is a global agricultural powerhouse (see, e.g., Gartlan, 2010) in which large-scale agriculture can retain some relative power over trading boards, processors and retailers. Indeed, transnational food companies, through buyer power, are able to influence the allocation of production inputs, yet they also aim to reduce management problems and transaction costs by reducing the supply base to fewer participants (Gereffi, 2014). As a result, and based on its agrarian structure and large natural resources, primary production in Brazil retains some power

⁴³ The information on food security strategies of this chapter, as well as the conceptual work on reflexivity were used to write an article within the PUREFOOD project. This article is entitled: *Reflexive governance for food security: The example of school feeding in Brazil* published in the Journal of Rural Studies. Although, I am the second author of this article, I conducted data collection and equally contribute to the analysis and writing of it. Furthermore, this chapter adds several fundamental aspects to the debate, which were lacking in the published article, such as locating the evolution of PNAE within national development strategies; linking PNAE to PAA. It also adds key elements central to this thesis (e.g., right to school food, decentralisation and family farmers), examining what is a whole-school food approach in Brazil and, discussing how the national plans for food and nutrition security are designed, implemented and monitored.”

while becoming a key global food commodity player (ibid.). In this configuration, the state is a central piece. It shapes primary production and commodity export geographies by setting exchange rates, large infrastructure investments, soft credit schemes, and research and development in tropical agriculture (OECD, 2015).

The second major divergence from the meso-level structure is that after the country's return to democracy, civil society, FFs, and the state have constructed a distinctive food system whose implicit and explicit rules differ from those in the intensive food order and export-oriented agriculture (Schneider et al., 2010). Indeed, this system is based on the right to adequate food approaches for food and nutrition security. Moreover, over time, family farming has become the cornerstone of domestic FS. The focus of this chapter is precisely over this last configuration; in particular, how it is articulated and implemented in PNAE, which today sits at the nexus between public concern regarding nutritional burdens, the universal right to adequate school food while stimulating food sovereignty, and transformation of local food systems.

Admittedly, for the reader, it would be more interesting to start directly with how the state and civil society are able to put in motion and manage a National System for food and Nutrition Security (SISAN). One could also miss a crucial fact: SISAN emerges over a particular series of events, mostly – but not only – the country's return to democracy, civil society participation in the food policy cycle, and the strong support of a political party. This is to say that by comparing different histories and configurations of PNAE through time, the chapter tracks the nature of the school food reform. Indeed, historical changes in PNAE help to explain how Brazil aims to intervene in the field of food practices and change the FS situation at multiples levels and scales. Endorsing this comparative methodology to explain the origins of the school food reform, however, might be not enough to expose its nature. As explained after the meticulous revision of PNAE's evolution, studying SISAN's inner workings and participatory mechanism is as important for the understanding of PNAE's nature as its historical particularities.

Geo-historical Evolution of the Brazilian School Food Policies

From food aid to the creation of the National School Meal Programme (1950 – 1990)

At policy level, school food programmes (SFP) in Brazil emerged as part of international food aid schemes during early 1950s. By this time, UNICEF delivered supplementary feeding (skimmed milk) to about 350,000 schoolchildren in the high food-insecure North-East States (UNICEF, 1986). Soon after, in the late fifties, the international aid programme of the US Government 'Food for Peace', or USAID, replaced UNICEF's role and took over the school feeding initiatives in the North-East and significantly expand the scope of school food initiatives. Indeed, the central government put together a dispersed set of municipal

SFP to seize foreign ‘food aid’.⁴⁴ It is here where the Federal government passed the first school law (decree 37106/55) to create a national school food campaign aiming to support children’s education, enhance the nutritional value of meals, and ensure that school food products could be secured through agreements with international food aid agencies. In doing so, the initiative became dependent on international ‘food aid’, particularly on skimmed milk and wheat-based products to provide the school food service. In this context, it can be said that the nature of the first SFP in Brazil is part and parcel of the “industrial-mercantile food regime” (Friedmann, 1993).

In the late 1960s, international food aid in Brazil came to an end. For the national school food campaign, this development substantially changed the composition of school meals. Increasingly, they began to be based on convenience foods (soups, porridge, milkshakes, etc.) or industrialised menus. The first public food procurement called for the SFP tendering, for example, requesting the provision of “foods that are produced using enriched flours”. With this strategy, the state aimed to boost the country’s industrialisation by providing incentives to agroindustry and markets for nascent domestic food industries. Thus, the school food service began to rely on domestic processed foods and the intensive agriculture by which they are produced. These changes occurred in the military regime (1964–1984) while pursuing import substitution strategies.

With the aim to boost food availability, during the import substitution strategy or conservative modernisation⁴⁵ the state mobilised credits for large landowners, incentives to agroindustry, and massive programmes for the adoption of green revolution. In addition to provoking massive rural migration, at the supply side this strategy formed and consolidated four main types of agriculture which are still observable today: a vast sector of subsistence farming (mostly in the North and North-East of the country); a countrywide dispersal of FFs in the fringe of subsistence and adapting to markets controlled by middle men; a family farming of the middle supply commodities for domestic and international markets by means of production factor substitution (mostly located in the South and South-East regions); and large-scale agriculture linked to exports and global food markets. In this context, conservative modernisation did not change what had been normal since colonial times. In fact, international commodity prices often dictate what is meant to be produced

⁴⁴ In time, food aid came to be recognised as ‘food dumping’, as USA and Europe use internal surpluses to allocate cheap food surpluses of agricultural intensification at the detriment of local agricultures.

⁴⁵ Very often, the input substitution strategy is conceptualised in terms of conservative modernisation. In general, modernisation refers to the structural forces and actors intervening in the installation of industrial capitalism in Brazil. This process in Brazil is considered to be conservative because of its exclusionary character among social groups, ethnicity, regions, and economic sectors. Additionally, it has acquired explanatory character to analyse rural migration, urbanisation, and regional differentiation developments. The theoretical and empirical work of food systems under this lens concentrate on three thematic areas: the success of Brazil in becoming a net food exporter at the expense of marginalising incentives for the production of staples; the nature of the “Brazilian agrarian question” and the country’s land structure; and the role of the state in the expansion of monocultures, agribusinesses and the trans-nationalisation of the food chain.

for domestic food availability (Maluf, 2007) – in particular, commodities use in intensive livestock production and inputs for (ultra)-processed foods. Although during conservative modernisation the production capacity was sufficient to cover the caloric needs of the population, it did not solve the problem of access to food. In 1974–75, 67% of the population was malnourished (IBGE, 1978).

In this context, major change occurred in 1976, when the dictatorship integrated the school food campaign into the second Food and Nutrition National Programme⁴⁶ (Programa Nacional de Alimentação e Nutrição [PRONAN II]). For Abreu (1995), PRONAN II was the first integrated food policy model in Brazil because it sought to connect the various state agencies and ministries engaged in FNS programmes (Nehring and McKay, 2013). As a result of its emphasis on integration, it was under PRONAN II in 1979 that the school feeding campaign shifted from scattered regional or city-based initiatives towards one with national scope – known until today by the acronym PNAE. In addition to acquiring national scope, PNAE began to be universalised as it targeted children from nurseries to the first year of all public primary schools. Moreover, and for the first time, PRONAN II envisaged to re-connect small scale production and consumption by creating embryonic institutional markets while tackling the nutritional needs of vulnerable social groups. Lastly, PRONAN II established feeding programmes for industrial workers and sponsored research on nutrition and capacity building on public health nutrition.

Despite the constitution of PNAE, there were recurrent problems with the discontinuity in service, poor quality of food offered, inadequacy of diets with consequently low acceptability, restriction to the serving of a single daily meal, etc. (Maluf, 2007). PRONAN II also failed to achieve its FS objectives. For instance, the first study on FS 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 and a few national catering enterprises (Sonnino et al., 2014a). Research conducted so far has identified a range of factors responsible for the failure of PRONAN II and PNAE, including lack of vertical and horizontal coordination, budget deficits, and a clientelistic use of resources (Nehring and McKay, 2013).

Despite the emphasis on integration and FNS, the government's foremost priority in relation to food was to keep increments in production, especially of export crops such as soy and sugarcane, which were controlled by large landowners and heavily supported by the state. In the context of such a centralised, hierarchical, and uncertain governance

⁴⁶ This can be seen as one outcome of the '72-'74 global food crisis. As maintained by Maxwell and Slater (2003), after this crisis, governments began to (temporarily) focus on integrated food policy actions and not only in boosting food production.

context, PNAE remained largely disconnected from access to food priorities and initiatives at sub-national levels. Likewise, PNAE remained disconnected from food policies whereas the state was part and parcel of legitimising *latifundia* and supporting the industrialisation of food systems. But, as structural adjustment unfolded in the nineties, two major occurrences redefined the state's role in relation to domestic and export-oriented food chains.

From the country's return to democracy to the Zero Hunger strategy (1988-2003)

In the nineties, the state's focus on import substitution shifted to create macroeconomic stability, controlling inflation and creating legal frameworks to enable the 'free' movement of goods and services. In the country, however, this neoliberal development model – often referenced in the literature as the Washington consensus – acquired specific features, departing from traditional market fundamentalism approaches. In fact, the state did not roll back from the conduction of the national economy or roll out from the provision of public services. In the literature, two major processes are found to be accountable for this occurrence: one that pushes towards a neoliberal development strategy (productivist and consumerist compromises), and the other aiming to advance social, economic and welfare demands (democratic compromise). In this context, there was a rise of a stronger state able to act as a buffer amid the tensions of confrontational development frames.

Productivist and consumerist compromises

In the nineties, the rapid growth of transnational capitalism ran alongside fast economic growth and the significant influence of Brazil on regional and global FS. At that time, Brazil became a major food supplier for China, and Brazilians' increasing purchasing power suited the interests of big food multinationals. From this point of departure, it is argued that Brazil makes agricultural and monetary policies based on geo-political imperatives, economic development interests, global food competition, and domestic availability of food (Oliveira, 2016).

At the supply side, this occurrence can be seen as part of a productivist compromise. It is productivist because the food policy's main orientation deploys orthodox production strategies aiming to boost food capacity (Guanziroli et al., 2012). It is a compromise due to the fact that Brazil has become a cornerstone for 'global FS'. Put simply, governmental policies for developing new tropical varieties and livestock breeds, technologies like no-tillage systems, soil management together with large allocation of financial capital through subsidised rural credit, exchange rate management, and large investments in commercialisation infrastructure, increased the country's food commodity capacity, especially as a producer of sugar, cotton, pulp and paper, citrus, soy, meats, and coffee. For example, agriculture exports account for up to 40% of trade surplus (Martinelli et al., 2010) while agricultural input, equipment, food production, processing industry and distribution

enterprises (together known as agribusiness) contribute to nearly 23% of the country's GDP (CEPEA, 2014).

In addition to the active state promotion of productionism, the Brazilian food supply is actively structured by changes in global dietary patterns, mainly those occurring in mainland China; a post-Washington consensus era (Gereffi, 2014, Barling and Duncan, 2015) that is characterised – among other factors – by the transformation of Brazilian soy in industrial meats and oils to be consumed for more affluent eaters.⁴⁷ In fact, since 2011, Brazil has become the largest world soy exporter to China, accounting for 41% of exports (Oliveira and Schneider, 2014). This is to say that an increasing demand for meats and oils is conducive to the 'soyification' of Brazilian countryside, which together with intensification of monocultures and introduction of GMOs, this process expands the agricultural frontier. Indeed, there is a constant displacement of ranching further north of the country, contributing to the clearing of virgin forest (Barona et al., 2010).

Soy production is perhaps the most palpable example of the global compound of meat production. Nevertheless, other flexed commodities associated with nutrition burdens and biofuel production, like sugar and maize, are equally expanding. Between 1990 and 2009, the land used for export crops (soybeans, sugarcane, maize and cotton) increased 125% in relation to those dedicated for domestic consumption (CONSEA, 2010a). These increments go along with the excessive use of pesticides to increase controllability of production systems. According to Brazil's Institute of Statistics and Geography (IBGE), between 2000 and 2012, the expenditure on pesticides doubled (IBGE, 2015a). This means that in 2012, around 7 kg of pesticides were used per hectare of arable land, out of which 6.3 kg fit into the top two highest toxicity categories. The study also shows that major export commodities account for 65% of the total use of pesticides, where soybeans account for 40% of pesticide use.

In addition to threatening food systems sustainability (hence FS), such forms of intensifying commodity production are accompanied with an input-output market oligopolisation, often in the hands of transnational enterprises. For instance, fertilizer, pesticides, meat, and sugarcane industries are clearly an oligopoly of a maximum of 10 global enterprises (OECD, 2015). The six largest pesticide multinationals alone control 85% of the inputs in Brazil, which is by far the largest Latin American market (Pelaez et al., 2011).

⁴⁷ China is the world's largest pork consumer, the third largest beef producer, and second largest poultry producer. In 2011, Brazil became the third largest beef consumer in the world. While a large body of literature contends the importance of these foods for human nutrition in LMICs, it is also true that overconsumption per capita is associated with nutrition transition. In both countries, for instance, the proportion of meat and oil consumption follows alongside the increments in obesity figures.

At the same time, they commercialise around 60% of Brazilian agricultural output (Martins de Carvalho, 2013). In the soy market, for instance, ADM, Bunge, Cargill and Luis Dreyfus control 50% of the crushing industry and 85% of the soybean exports in South America (Oliveira and Schneider, 2014). In other export crops, transnational capital contributes to increased market concentration. Bunge, Cargill and Shell control 58% of all sugarcane land and sugar and ethanol processing units. Nevertheless, transnational companies are only part of the equation; there are around 20 Brazilian companies with annual sales in 2010 over one billion dollars (Gartlan, 2010). In fact, Brasil Foods and JBS export to more than 140 countries worldwide. They alone control 44% of poultry exports, and JBS accounts for 9% of global animal protein exports. Similarly, Brasil Foods is one of the largest manufacturers of frozen food in the world, with annual sales of nearly US\$6bn (ibid.).

The expansion and power accumulation strategies of these companies work in different fronts. For example, they aim to: reduce supply chain actors (materialised in mega-farming and land concentration); secure critical raw materials (translated in future contracts and large ecosystem privatisation); increase global market shares through direct investments, mergers and acquisition (translated in market power and oligopolisation of food-related industries and retail systems); and build an attractive food portfolio for internal consumers in emerging markets (Gereffi, 2014).

Despite the active role of private companies shaping food markets, the state plays a fundamental role at the supply side. Public-led rural credit between 2001-2010 grew 148%. In soy alone, R\$12.1 billion went towards funding expenditures in production in 2012 – from which 90% was allocated to large producers (Grisa and Schneider, 2015). In addition, most agricultural commodities economies prefer and rely on public credit for investments in food production. This is due to lower interest rates and flexible compensatory mechanisms.

Public investments in research and development are also large when compared to other Latin American food exporters. It accounts for almost half of what is allocated annually in R&D by the other 26 countries in the region (Stads and Beintema, 2009). Public R&D facilitated the incorporation of new areas that were previously unsuitable for intensive agriculture due to the soil, especially in the Brazilian savannah. Remarkably, 80% of funds for ‘innovations’ in food production are of public character, endorsing the relevance of the state in increasing productivity. At the consumption side, contemporary research in net food exporter countries associates the dominant model of intensive agriculture with higher figures of obesity and other food-related illness (Hawkes et al., 2012).

In addition, the rise of a new middle class and higher incomes for Brazilians attracted the interest of transnational capital and dietary changes, and the establishment of

supermarkets as major food outlets.⁴⁸ From the governmental perspective, this was part of liberalising food markets, or what can be labelled the ‘consumerist compromise’ which is characterised by a money-making agri-food model enabling the nutrition transition (see, Figure 7).

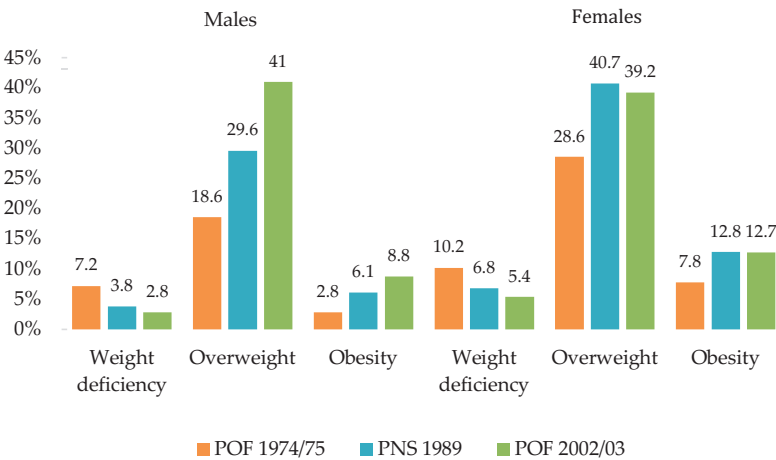


Figure 7 Prevalence (%) of weight deficit, overweight and obesity
Source: Health Ministry of Brazil⁴⁹

As stated in an earlier chapter, dietary convergence and adaptation are central to the study of nutrition transition in LMICs. While Brazil is the third largest meat consumer per capita in the world, this only partly explains the rising figures of overweightness and obesity.⁵⁰ Research shows that in Brazil, these figures are more correlated with the frequency and increments in the consumption of processed and ultra-processed⁵¹ foods (Monteiro, 2009,

⁴⁸ The increasing consumption of industrialised meals and products meant that an important part of agricultural production became an input for the food industry; hence, it was linked to other elements of the long food supply chains like supermarkets (Belik et al., 2001). In this way, these long food chains facilitated the entrance of industrialised food culture in Brazil during this period. One example is an increase in the commercialisation of food made through a supermarket chains. According to Maluf (2004), in 1996, supermarkets were already the main place to buy food in Brazil, accounting for 44.9% of total household spending on food. It is also argued that households procure the vast majority of overprocessed foods at supermarkets, influencing food habits (Machado, 2016).

⁴⁹ Portuguese version can be found in the following link: <http://portal.arquivos2.saude.gov.br/images/pdf/2016/setembro/13/Metas-ate-2014.pdf>

⁵⁰ In 2008-2009, 50.1% of Brazilian men and 48.0% of women were overweight, a public health problem that already affects one-third of schoolchildren between 5 and 9 years of age (IBGE, 2010). According to the same survey, more than 90% of the population consumes fruits and vegetables in levels well below those recommended by the Ministry of Health (400g).

⁵¹ According to Monteiro and Cannon (2012), ultra-processed foods are created from substances extracted from whole foods such as the cheap parts or remnants of animals, inexpensive ingredients such as ‘refined’ starches, sugars, fats and oils, preservatives, and other additives. The products are formulated to be intensely palatable and to fool the body’s appetite control mechanisms. Many of these products, while legal, are in effect fakes, made to look and taste like wholesome food. They are formulated and packaged to have a long shelf life and

Levy et al., 2012, Monteiro and Cannon, 2012). The arrival of these pseudo foods to people's diets matches the entrance of transnational food companies. Instead of broadening access to affordable nutritious food, they brought poor quality food to households and substantial negative public health consequences (mostly in terms of obesity, but also in terms of high blood pressure and micronutrient deficiencies) (Monteiro, 2009).

In this context, the Brazilian nutrition burdens go hand in hand with both: agricultural policy focusing on increasing outputs and; agri-food model focused on facilitating investments of foreign companies and international capital. Foreign direct investment in food and beverages in 2000-2001, for instance, was seven times greater than on primary production (US\$453 million vs. US\$73 million – This means that the state backs the food production side, but it does not directly aim to intervene in consumption issues.

Taking together the productivist and consumerist compromises' ability to bypass social and environmental and public health demands, national reports also confirm what a well-established body of literature concluded after the 2007-8 food crisis: unsustainability of the dominant consumption-production model. Brazil directly relates (and contributes) to unsustainability drivers such as the bimodal character of food insecurity (Ashe and Sonnino, 2012), where the costs of obesity are estimated to exceed R\$3.5 billion per year (Bahia and Araújo, 2014); squeeze of the FFs and livelihood security of more than four million rural families (Wanderley, 2014); food contamination with pesticides is present in every one in three consumed vegetables (ANVISA, 2013); at least 50% of farmers who handle pesticides show some sign of intoxication (Faria et al., 2007); after China and India, Brazilian agriculture is the largest contributor of GHG emissions in the world (FAOSTAT, 2015) where the consumption of ultra-processed food increases the emissions of greenhouse gases up to 50% per calorie produced (Carolan, 2013a); climate change is likely to negatively influence the production of the nine most important crops⁵² (coffee, cotton, rice, sugarcane, beans, sunflowers, cassava, corn, and soybeans) (Girardi and Deconto, 2008); and a rise in the frequency and number of environmental conflicts due to intensive agriculture (Londres, 2011).

In addition to the unsustainable patterns created by the productionism and consumerism compromises, what is clear is that since the nineties, macro-economic policy aims to increase both the production and consumption of bulk foods. Conceptually, it sits upon what Wiskerke (2009) calls the logic of cost-effective scaled economies of industrialised

to eliminate the need for culinary preparation. They can be consumed anywhere, immediately or almost immediately, and often dispense with the need for tables, chairs, dishes, cutlery, and cups. They are therefore often termed 'fast' or 'convenience' products.

⁵² A systemic risk assessment study on climate change claims that a combination of drought and high temperatures in Sao Paulo City represented an economic loss of US \$5 billion, making the 2014 water shortage in the city the fifth most expensive natural disaster in world history (King et al., 2015).

foods. Yet, as aforementioned, this market fundamentalism phenomenon might be insufficient to understand the nature of the school food reform in Brazil (if framed as a singular response to the negative consequence of such a production-consumption model). In Brazil, market fundamentalism precepts as major goals for economic development is reconciled with the democratic demands emerging after the restoration of democracy at the end of the eighties. This trajectory is expanded in the following paragraphs.

The re-democratisation of food production and the decentralisation of PNAE

Democratisation and decentralisation are not exclusive features of Brazil, but in the country marked the shift from authoritarianism and central planning to elections at all levels of government and decentralised decision-making structures. According to Arretche (1996), two main outcomes of these processes are worth noting in relation to social policies. On one hand, there was a deep reform of state institutions, including the inclusion of multiple actors in the policy cycle. On the other hand, the extensive implementation of a decentralisation of the state materialised in the transfer of a large part of the responsibility of implementing policies, including food and nutrition security programmes, to the states and municipalities.

It is important to note that in the earliest phase of the country's return to democracy, the control of inflation and boosting food production for domestic consumption remained central to the design of FNS food policies. Since FFs had historically supplied domestic food markets, there was an inclusion of pro-FFs voices in policy making since the early nineties. Hence, it is argued that the participation of FFs' organisations in policy making for this sector has been fundamental for the government to broaden the orientation from large-scale export commodity production towards domestic FFs-led food systems (Wesz Jr and Grisa, 2015).

While since the 1970s production, credit, and welfare policies are part of their demands, only after the restoration of democracy and the increasing prominence of campaigns of agrarian reform by the landless movement (MST) to secure land rights – 'struggles for land'- in combination with advocating and promoting labour reform in the hands of rural labourers' trade unions (CONTAG, FETRAF) – 'struggle for class and labour reform' put back into the political agenda the recognition of rights of family farming for economic and human development (Wright and Wolford, 2003). In this context, then, the interaction of pro-family farming reform advocates and the newly democratic state takes the form of state-political parties-peasants movements⁵³ (Wolford, 2010).

⁵³ Some scholars argue that the influence of family farming in setting agricultural and agrarian policies can be seen as an example of inserting food sovereignty principles into food policies (see e.g., Schmitt et al., 2014). In doing so, family farmer organisations and social movements interpret history, state, and the green revolution with a set of 'moral arguments or values' aiming to challenge agribusiness in general, but large properties and patronal agriculture in particular.

Since the return to democracy, policies for family farming have responded to different social and economic demands (Ellis and Biggs, 2001). Indeed, they aim to expand access to land for smallholders and the economic rights of a group historically ignored by the state (Bonnal and Maluf, 2009, Schneider et al., 2010). Grisa and Schneider (2015) argue that between 1994 and 2003⁵⁴ there were two main policy orientations for FFs. The first set of policies basically have agricultural and agrarian profiles, including rural credit, production insurances, minimum price guarantees, and agrarian reform policy.⁵⁵ The second set of policies has a sectorial and assistencialist character (Schneider et al., 2010). This set is characterised by a framework, fundamentally outlined and derived from structural adjustments precepts (Grisa and Schneider, 2015), seeking to improve rural infrastructure and services in poor municipalities. In addition, they consider safety nets or antipoverty measures such as cash transfers, schooling support, and energy aids.

In this context, the state began to recognise family farming as a viable option for rural development. Before, rural development goals aimed to support the adoption of green revolution technologies and the consolidation of links to the FFs-food industry (Navarro, 2001). According to Schneider (2010), in the nineties, this vision began to change, while re-valuing the role of FFs in the development of rural farming on the basis of four interrelated particularities: the capacity of FFs to generate marketable outputs in terms of increasing or broadening domestic food availability; their competence to interact with local institutions; the multitude of FFs livelihood and rural maintenance strategies; and the importance of family farming in relation to social development, democracy, and collective action.

One of the most significant results of this process has been the creation of an independent and dedicated institutional architecture, regulatory framework and governance means for FFs. For example, in 1995, the state created the National Programme for Strengthening Family Farming (Programa Nacional de Fortalecimento da Agricultura - PRONAF); in 1999, the Ministry of Agrarian Development (Ministerio do Desenvolvimento Agrario⁵⁶ [MDA]); and finally, in 2006, the national law of family farming. While conceptually FFs⁵⁷

⁵⁴ Year in which the Zero Hunger food strategy was introduced.

⁵⁵ It should be noted that in the opinion of several scholars, the first set of public policies for FF does not significantly diverge from productionist or neoliberal frames to the extent that the government interventions on 'market failures' are directed to promote the insertion of FF into traditional food chains, and the agrarian reform does not change prevalent high land concentration indices. While this critical view remains valid today, it is also a matter of fact that before 1994, FF were not recognised as a public policy category, nor did they have dedicated policies.

⁵⁶ After the impeachment of Dilma Rouseff in 2016, the MDA was extinguished by the new government which created a new agency (Special Secretariat for Family Agriculture and Agrarian Development) within the Ministry of Social Development (MDS) to deal with family farming. For many, this fact represents a setback to the achievements of FF organisations towards setting policies and mobilising interest at higher levels of government.

⁵⁷ There are various artisanal producers belonging to the FF category; for example: colonists 'colonos', squatters 'posseiros', partners 'parceiros', settlers 'assentados', ribeirinhos, fishermen, peasants, smallholders and entrepreneurial FFs.

represents a rural trajectory of autonomy vis-à-vis strategies of economic and political power accumulation⁵⁸, first as a result of colonisation and later agricultural modernisation, the law no 11.346 of 2006. Brasil (2006a) operationalises 'Family Farmer' based on the following criteria:

- Scale: doesn't own a property larger than four fiscal modules.⁵⁹
- Family labour and leadership: uses mainly family labour for his activities and he leads his establishment or venture with his family.
- Mainly on-farm income: the family income is mainly derived from activities of his own establishment or venture.

Despite a new emphasis on family farming, the major policy focus until 2003 was on rural credit⁶⁰ (Wolford, 2005). This licensed a concentration of production capital among the more well-off FFs, regions, and specific export crops. For example, only 19% of family farms have access to credit, of which 60% are located in wealthier regions of southern Brazilian states. In contrast, the North-East, which has more than 50% of the total family farms, receives only 26% of the national credit (Belik and de Almeida Cunha, 2015). Likewise, soy and maize cultivars hoard up to 50% of available credits for family farming. In other words, only a small parcel of FFs (about 400, 000), those in the more entrepreneurial side of food production, are major beneficiaries of the first and second generation of policies for FFs.

Although at country level the availability of staples show reliability (Helfand et al., 2014), regionally the uneven production geographies reflect on consumption patterns.⁶¹ Regions in the South and Midwest account for 78.6% of cereals, legumes, and oilseeds production, where the access to these products is higher than in any other region. Likewise, the southern region produces 75% of the country's rice and all the demand for wheat. Regarding main fruits, vegetables and legumes, production tends to be concentrated in states where income is higher and close to main urban centres like Rio de Janeiro and Sao Paulo. All of these have recently been categorised as part of a healthy diet in the Brazilian nutritional guidelines. At the demand side, the main governmental effort during the nineties was directed towards controlling inflation, and food access programmes were of assistencialist character (Belik, 2012). Yet, the citizenship institute calculated that about 30%

⁵⁸ For Schneider and Escher (2011), the development and establishment of FF as a public policy target group are protective countermovement responses to the dominant forces in the globalised agri-food system and extractive economies, especially in relation to the development of domestic food systems.

⁵⁹ A fiscal module is not a fixed amount of land, as it differs among municipalities and depends on the size of the municipal territory. In Porto Alegre, for example, this amount is equivalent to less than 20 hectares. In other, larger territories of Brazil, less than four fiscal modules represent up to 500 hectares.

⁶⁰ Up until today, credits for FFs remain the major governmental priority and the vast majority of resources of the resources allocated to the National Programme for the Strengthening of Family Farming (PRONAF).

⁶¹ The unprocessed and semi processed foods most consumed by Brazilians are: beans, beef, poultry, eggs, cow's milk, pork, maize, bananas, oranges, watermelon, cassava, potatoes, tomatoes, bread, pasta, rice, papaya, apples, flour, onions, carrots, pumpkin, cabbage, coconut, cashew, chestnut, and açaí.

of the Brazilian population in 2000 had insufficient access to food (Instituto da Cidadania, 2001). What is interesting, however, is the fact that PNAE did not follow this policy orientation. In the 1988 constitution, PNAE is declared a universal social right, and since then, the state is meant to provide meals to all children in elementary school.

The universalisation of the service was accompanied by its financial and administrative decentralisation.⁶² In the new constitution, subnational governments are recognised as federal entities, with new responsibilities in the provision of the school food service and the configuration of decentralised public bids (Triches and Schneider, 2010). In doing so, secondary education is delegated to the federal states whereas municipal governments decide and administer elementary education – hence school food. Before, PNAE was top-down designed and centrally managed. In this type of governance architecture, only large contractors are able to deal with the complicated large-scale logistics, storing, and distribution practices involved in federal bids. They, in turned, distributed alongside of (over) processed foods was made from a selected set of large caterers (Maluf, 2009). As a consequence, FFs or regional distributors, who were not in the position of adhering to industrial food standards, were excluded from participation in the school food market⁶³.

During decentralisation, new regional and local caterers entered to the school food market and public bids at the subnational level had to comply with the general bidding law (Law 8.666 of 1993). Under the flagship of reducing corruption, improving transparency and reducing expenditures, cities began to procure food under the normative principles of lowering costs. The general bidding, for instance, aimed to: qualify the judgment of the bids under objective and transparent criteria (money for value); ensure the state does not protect particular interest groups (competitive food operations); link the bidding process to available resources (reducing costs); democratise access of bidding data and related administrative procedures (transparency); and establish penalties for those agents who infringe the bidding law (anti-corruption). Furthermore, the law acquired statutory status, meaning that it has the highest legal hierarchy whenever the state procures any sort of goods or services.

Apparently disconnected from the argument, this law is only a symptom beneath the consumerism compromise in which the state became a consumer (as opposed to the provider of public goods). This relation has been explored in depth in the work of Morgan and Sonnino (2008). The authors conclude that the shift to neo-liberal forms of regulation

⁶² In 1994, the federal state through Law no. 8913 regulated PNAE and delegated the school food services to municipalities or other subnational entities. Finally, in 1998, financial decentralisation was completed and since then municipalities received direct transfer to procure school food.

⁶³ During the dictatorship, the school food market became an oligopoly dominated by large companies “capable of shipping cookies or sausages from the South-East to the Amazon” (Maluf, 2009). In this context, poor infrastructure and storage facilities in municipalities and schools implied that most of the time the food expired and was unfit for human consumption (Triches and Schneider, 2010).

favoured four sets of bundled practices at subnational levels. The first is in general contract allocation corresponding to a narrow view of the problem to be addressed, privileging short term solutions and putting aside public health, environmental, and social justice concerns; second, procurement managers' disinterest in relation to larger societal problems as a result of a normative conception of what food quality entails and weak recognition of the surrounding foodscapes; third, overlapping regulatory frameworks and functional segregation at the municipal level of food issues which turns into conflict to be resolved by financial officers; and fourth, institutional inertia, resulting in procurement managers' preference for following legal compliance over creative solutions. According to Triches (2015), this procurement culture was installed in Brazil by the introduction of the general procurement law. While in some contexts, power devolution is more about 'displacement' than enhancing the provision of the school service (Allen and Guthman, 2006), one cannot forget that – contrary to what happened in Europe or the US – regulatory changes in Brazil were accompanied by the state function fulfilling new social rights and participatory mechanisms.

Since 1994, municipalities have been required to custom the CAEs. This aims to enhance the participation of civil society in school food policies. Initially, CAEs were in charge of monitoring the use of financial resources. Today, CAEs are a key mechanism utilised to monitor the quality and performance of school food service, to support the work of the nutritionists in the design of school menus, and to oversee the bidding process and budget statements provided by local authorities. CAEs are of hybrid constituency including government and civil society actors: specifically, one government representative, two parent representatives, two teachers or school staff members, and two representatives from civil society organisations. Furthermore, only states, districts and municipalities with functioning CAEs are entitled to receive federal funding for the school food service.

In addition to this participatory mechanism during the reinstatement of democracy and the new municipal responsibilities, in 1996⁶⁴ PNAE began to introduce measures to enhance control over the quality of the service. In this year, two major novelties were introduced. On one hand, municipalities were required to complement the use of federal resources with an investment of locally built, human, political and financial capital to guarantee the minimum standards of the programme. On the other hand, PNAE began to be centrally monitored and regulated by the National Fund for the Development of Education (Fundo Nacional de Desenvolvimento da Educação [FNDE]). This federal body, established in 1998, is still in charge of regulating public food purchasing and establishing nutritional guidelines across different levels and scales in the school food system. In this case, for instance, in 2001 the FNDE began to ban the use of highly processed foods and to encourage the respect of the food habits and agricultural vocation of the territory and the preference

⁶⁴ The Ministry of Education enacted these changes made through the Federal Ordinance 291/96.

for local products. Since then, subnational units are entitled to prioritise products from the region.

While decentralisation and the participation of civil society broadened the coverage and returned the power to cities for setting quality standards, they did not challenge industrial and value for money conventions. Reports confirm that public bids at municipal level continued to rely on regional large-scale providers, middle men and industrialised foods (Triches and Schneider, 2010). Likewise, the FNDE's promotion of purchasing local foods, fresh and consistent with regional food habits, failed; only a few municipalities were able to bypass the general procurement law. In this context, scholars point out that the public procurement bidding mechanism prevented municipalities from setting omnivalues in the pursuance of delivering adequate school meals (Triches, 2015).

In this context, the results of decentralisation, participation, and cost reduction of the regulatory environment are mixed. For example, decentralisation and the right to school food exponentially expanded the reach of the school food service. From 1993 to 1996, the agreements signed between the federal government and the municipalities increased from 1265 to 3257 (Spinelli and Canesqui, 2002). This means that in 1996, the school food coverage was approximately 60%. Today, all municipalities and federal states provide school food.

At the same time, decentralisation contributed to the insertion of regional food companies. Moreover, it contributed to the elimination of PNAE's administrative and financial centralisation, which – as the government had learned from the past – had been responsible for the failure of the service in many areas of the country. In this scenario, the new role assumed by the FNDE ensured that the federal government remained in charge of setting minimum quality criteria and food safety procedures of the food served in schools. Nevertheless, the general procurement law hindered the potential of FNDE to structure the school food market; a barrier that began to be progressively removed once PNAE began to be embedded into a reflexive system for food and nutrition security.

Embedding school feeding into a National System for Food and Nutrition Security (2003-date)

Credit and land reform policies provided a number of solutions for FFs at the production side, while at the demand side, controlling inflation brought major gains to stabilising food prices.⁶⁵ Nevertheless, the state's assistencialist approach to securing adequate food for

⁶⁵ Enabled by the economic crisis that marked the eighties and subsequent low purchasing power of the minimum wage, in the nineties the state policies focused on controlling inflation while adopting centralised, sectorialised, and targeted programmes of sporadic food assistance (Takagi, 2006). At the same time, however, the defence of the 'minimal state' and the rolling back of the provision of basic public policies aggravated the

vulnerable groups was unsuccessful, as the figures for undernutrition and obesity show. Moreover, their structural underpinnings like poverty, inequality, and low coverage of welfare policies remained unchallenged until the implementation of the Zero Hunger⁶⁶ (ZH) strategy, which began to redefine the meaning and orientation of food and nutrition policies, programmes, and actions (see, Figure 8).

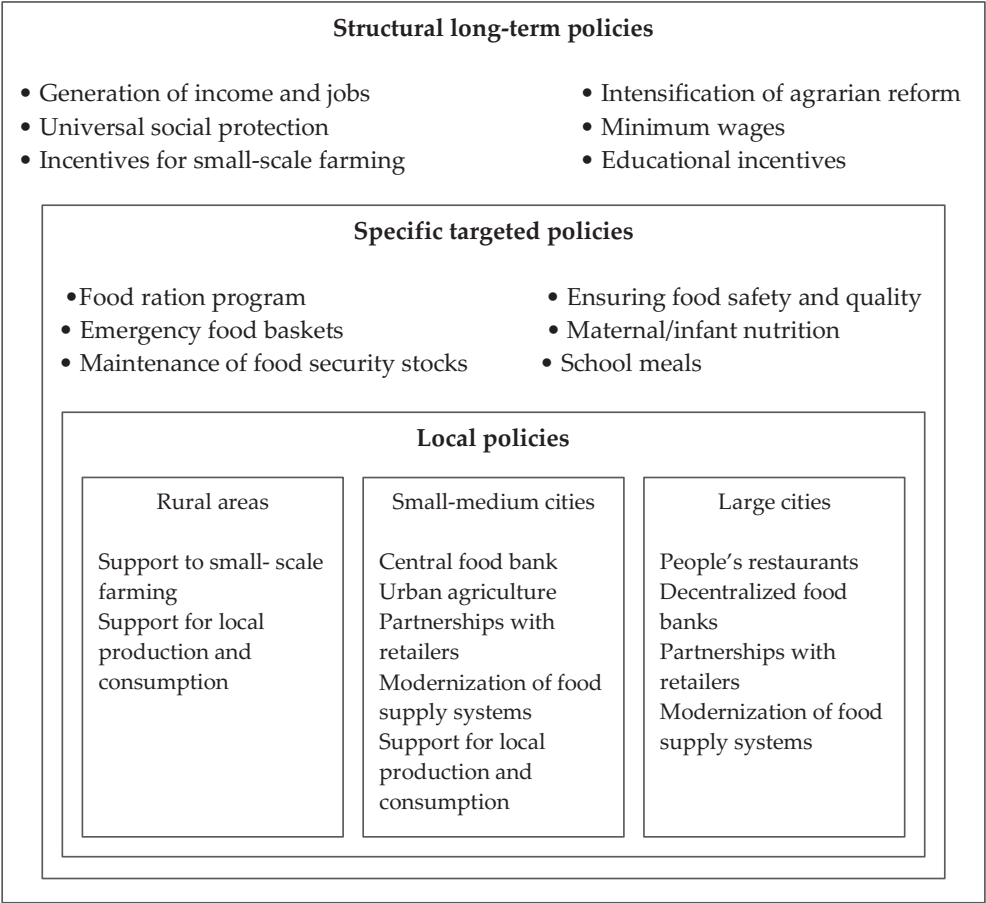


Figure 8 The Zero Hunger architecture
(Source: da Silva, 2009)

situation of the poor. As a consequence, in the nineties there was a dismantling of the programmes in the area of food and nutrition.

66 With the arrival of Luiz Inácio Lula da Silva to the presidency in 2002, the ZH (Fome Zero) programme began to be implemented. ZH was developed by the Institute of Citizenship in 1999 based on national and international successful FS strategies. It identified FS as a public policy goal of paramount importance to support social development in the country. It is also important to note that the initial priority to fight against hunger and poverty during the first presidential period of president Lula (2003-2006) continued during his second period (2007-2010) and was adopted for president Dilma Rouseff (2011-2016). These governments are key enablers for the new PNAE direction and market creation for FFs.

In addition to recognising the multidimensional nature of food insecurity, the ZH strategy brought three main innovations to the field of food policies. In the first place, there was a shift from productionist and consumerist issues towards access to food and resource constrained FF. In doing so, the exclusionist model of macro-economic development began to be challenged through the construction of a more inclusive and multilevelled domestic FS system. In fact, ZH became a social development policy aiming to curtailing poverty and social exclusion by putting in motion a three-way FS strategy involving structural policies tackling the causes of hunger such low purchasing power, universalisation of social rights, minimum wage policy, reduction of inequality, and broadening access to quality food; specific policies for the most vulnerable families and social groups; and strengthening local food strategies (Takagi, 2010).

In essence, this three-way approach aimed to tackle insufficient access to food by reducing poverty (and inequality) through the generation of sustainable income and enhancing the availability of food through the real universalisation of PNAE, cash transfers, and other food assistance programmes. Equally important is the fact that in constructing the new social development agenda, ZH decentred food production from the core FS policy aim and embraced the right to food as a meta policy goal to be guaranteed by the state (Rocha, 2009).

In relation to PNAE, for instance, ZH contributed to its reform by increasing the allocation of financial resources, through changes in the federal administration of the programme and by regulating the quality of the service. ZH progressively increased the allocation of financial resources to subnational units, as well as the coverage of the service. Indeed, until 2003, the amounts transferred per student were steadily increased from R\$0.13 to \$1.00 for kindergartners, full-time students, and vulnerable groups like the indigenous and quilombola populations. In addition, secondary students are entitled to R\$0.30. To administer the new resources and ensure that federal FS directives were not diverted, ZH placed FS champions in strategic bodies of the Ministry of Education.

In doing so, the federal government guaranteed that the PNAE goals were achieved, while receiving trusted feedback regarding challenges and opportunities of improvement. Finally, the state further intervened in the governing values of the programme by means of the Resolution No. 32 of 2006, which goes beyond decentralisation and refers to universality, equity, social participation, and respect of food culture. In this norm, the purpose of PNAE is to meet the nutritional needs of students during their educational stay, contributing to an adequate physical shape, personal development, food literacy and school performance, as well as the formation of healthy eating habits. In addition, the Resolution of 2006 promulgates, among its guidelines, support for sustainable rural development.

The second main innovation ZH brought to the redirection of the domestic FS system was the creation of decentralised markets for FF. While the first and second generation of policies enhanced the capacity of FF to produce vendible outputs, there was an absence of markets able to generate decent income or respond to family farming specificities. As a result, the government and subnational units designed the Food Acquisition Programme (Programa de Aquisição de Alimentos [PAA]). PAA is the first public procurement programme aiming to create markets while providing free access to food for people suffering from hunger. In fact, PAA prioritises public procurement for people suffering from food insecurity and the bottom half of the FF (Grisa and Porto, 2015). This is to say that public procurement in ZH uses the power of the public plate to promote social, economic, and political inclusion by linking supply and demand. In addition to promoting social wellbeing among vulnerable social groups, PAA also seeks to stabilise food prices by retaking the old strategy of creating national food reserves (Chmielewska and Souza, 2011).

Equally important is the fact that PAA was the first policy instrument to dismiss the use of general bidding law while establishing especial procedures for public food procurement.⁶⁷ There is a consensus among scholars that PAA differs in one fundamental way to PNAE: in PAA, the demand for food is not structured in terms of range of products, nutritional quality, safety requirements and time specificity. On the contrary, PAA public purchases emerge from the family farmer's intention to sell some harvest surpluses (for a full description, see Nehring and McKay, 2013). Once the state validates that FF are entitled to PAA, public authorities assign procured food to local institutions and programmes catering for food- and nutritional-insecure populations. It is worth noting that, together, the federal government and decentralised authorities are in charge of the PAA implementation.

Over time, this interaction has translated into countrywide engagement of municipalities with food policies. Since then, cities have begun to re-value FF as central actors of local FS strategies (Siliprandi and Cintrão, 2014). Equally important is that, in addition to have dedicated institutional and legal frameworks, these new markets for FF are strongly based on local social relations from which the high transaction costs can be overcome, creating

⁶⁷ Law 10,696 of instituted the PAA and differentiated the programme in relation to other forms of public procurement by exempting authorities from bidding under the cost reduction regulatory architecture. The law established that governments can waive bidding for purchases made by PAA as long as prices paid to FFs are not higher than those of regional markets and the government does not purchase more than a fixed amount of money. There are five modalities of public procurement under PAA, all of them capped to maximum amounts of yearly public purchases: direct purchase (max R\$ 8000); simultaneous donation (max R\$ 8000); PAA-milk formation (max R\$ 8000); stock formation (max R\$ 8000); and institutional procurement (max R\$ 8000). Each attend different FS strategies; for instance, direct purchase aims to ensure that all FFs have access to markets regardless of what is produced and when. Simultaneous donations directly link production to organisations fighting hunger in poor neighborhoods. PAA milk uses purchases for donation to families in need in North-Eastern and Northern states, which are the country's more food-insecure regions. Institutional procurement uses food for regular consumption in public institutions

the possibility of maintenance of the public procurement programmes (Schmitt et al., 2014). This is nicely summarised in one of the interviews:

“Before PAA, I had to go to many accounting courses to sell my juice. Every time I came back to the farm, I had headache for three days. The business had not yet started and we had to pay a lot of fines because of mistakes when making invoices. That was a serious problem. Hence, the government says ‘Look: we invented the credit policy for family farms and support policy for on-farm processing but farmers are not able sell their products. What is wrong, are these policies a big failure?’ So they smartly said either there are not markets, or they do not know how to commercialise their products. So, they created markets for FFs while teaching us how to sell products little by little. For these reasons, the government created the PAA with several lines and objectives. More importantly, they forced municipal authorities to buy our products. Why forcing? People working at the municipality do not do it willingly. For goodwill? No way! The public official is well paid, for him it is a horror to change what they know how to do. In our case, PAA thought a lot about the organisation of the cooperative, the consumer and the bureaucracy of the state. We can also see a new compromise with the municipality. They start slowly to say, ‘Let us do public procurement together. We will help you to organise the cooperative, arrange the paper work, the distribution etc. We’ll sit with you through this, as it is very important for us’. Through PAA, they began to understand our profession as FFs, our logistics, and began to value our products. But most importantly, public officials learnt that the PAA is a service for the community, not only for the farmer” (Family Farmer 5).

In this way, PAA produced the conditions for the emergence of knowledge and practices needed for the school food reform. Indeed, before the school food reform, some municipalities were using PAA as an instrument to overcome the bureaucracy of the bidding process while supplying school kitchens with FFs foods (Triches, 2015).

Otsuki (2011) argues that PAA enabled food transactions between farmers and municipalities while creating operational transparency to decentralised markets. In doing so, the proposal to create markets for FFs through PNAE did not encounter major opposition from municipalities. However, PAA was not the only programme enabling the emergence of the local procurement of FFs foods to schools; other state initiatives have contributed to its materialisation. In addition to the first and second generation of pro-family farming policies, its policy categorisation as ‘FFs’ allows state agencies to differentiate them from other food suppliers. For instance, to take part in markets for FF, they must be in possession of a declaration of their belonging to PRONAF – a mechanism by which FFs have access to FNS policies.

In addition to being a social development policy and the creation of markets for FFs, ZH’s third main policy innovation was the creation of a novel participatory governance structure (now and hereafter referred to as a reflexive governance architecture). In fact, the state and

civil society fashioned a new set of food policies and institutions⁶⁸ to manage the multifaceted nature and changing character of the country's food and nutrition context. The ZH emphasis on participation led to, for example, the restoration of the National Council for Food and Nutrition Security (Conselho Nacional de Segurança Alimentar e Nutricional [CONSEA]); and to the partnership between multiple communities of interest in the field of food provision policies including FFs' organisations, academics, agroecological advocates, and public health nutrition associations. All of them are represented in the National Conferences for Food and Nutrition Security (Conferência Nacional de Segurança Alimentar e Nutricional [CNSAN]), setting FNS priorities every four years. It is precisely in these two interrelated forums that Brazil configured SISAN. This relation, its policy basis, and functional underpinnings are analysed in the next section.

Constructing the National System for Food and Nutrition Security

During ZH, one of the main goals of new actors in the FS policy arena was an intended effort to construct SISAN, whose configuration relied on civil society demands yet was managed by the state. This assembly is part and parcel of a set of social forces that began to take shape in the early nineties, when a diversity of 'new' political actors, social organisations and movements, networks, forums and informal articulations of civil society organisations began to collectively organise themselves and construct and claim welfare rights while pressing the state to implement public policies to have access to public resources and services such as land, income, health, housing, sanitation, education and FNS (Abramovay and Morello, 2010). In this new socio-political context, the issue of tackling food and nutrition insecurity began to be part of civil society demands, where access to food should not be confused with a governmental gift (i.e., food assistance), but with a right of citizenship (Pessanha, 2002).

Three convergent civil society processes were fundamental to the reintegration of food and nutrition security into the social and political agendas of Brazil. The first originates in the Movement of Faces Painted (Movimento dos Caras Pintadas), led by the Movement for Ethics in Politics. Called 'Citizenship Action Against Hunger and Misery for Life', the movement gathered broad sectors of civil society articulated around more than five thousand solidarity committees throughout Brazil, with actions such as the Christmas Campaign Without Hunger.

⁶⁸ The most relevant state institutions placed to put the Zero Hunger strategy into movement are: The Extraordinary Ministry to Fight Hunger (Ministério Extraordinário de Combate à Fome), which was later replaced by the Ministry of Social Development and Fight against Hunger (Ministério de Desenvolvimento Social e Combate a Fome - MDS), the Ministry of Agrarian Development (Ministério de Desenvolvimento Agrário - MDA), the restructuring of the FNDE, and the restoration of CONSEA and CNSAN.

Based on the hunger map published in 1993, the movement called attention to the incompatibility between ethical commitments of poverty, hunger and democracy. Furthermore, participants and organisations began to call attention to the need for structural actions against social exclusion that, for many, underpinned the problem of hunger in the country. Observers qualified this first civil society movement as fundamental to broadening the discussions on hunger and food insecurity to include the problem of poverty and its consequences⁶⁹ (Pessanha, 2002). As in the case of FFs, these issues in turn became flagships or programmatic agendas of progressive political parties. In fact, civil society organisations and pro-labour political parties began to construct food and nutrition security as a “public problem” (Silva and Schmitt, 2012).

The second movement was organised around and from two formal events: one of international character and the other of national scope. In the United Nations Conference on Environment and Development of 1992, civil society organisations articulated a parallel forum framing food and nutrition security not as a supply based model based on the Green Revolution, but on the contrary, as an economically and environmentally sustainable, socially and culturally just model, whose discussion resulted in networks and movements for agroecology, sustainable agriculture, and food rights across LMICs (Burlandy et al., 2013).

The Brazilian-rooted organisations met again at the 1996 World Food Summit in Rome, but dissatisfied with the timid Millennium Development Goals (MDGs) approved at that summit, founded the Brazilian Forum on Food and Nutrition Security⁷⁰ (FBSSAN). It should be noted that in the Brazilian National Report, prepared specifically for the World Food Summit Conference and based on the civil society demands, Brazil maintained two important positions in relation to FNS. On one hand, it upholds that access to food is a human right in itself to be superimposed over any other reason that may justify its negation, whether of economic or political character. On the other hand, it maintains that there are multiple factors generating food and nutrition insecurity in the country, so that overcoming hunger and guaranteeing food and nutritional security imply integrated actions and policies based on economic growth with equity, sufficient supply, fair global food trade, agrarian reform, food production based on family farming, and sustainable food practices.

⁶⁹ One should note that often in the FS literature the binomial “poverty/hunger are mistakenly seen as interchangeable and of equal content and meaning. In market economies, however, hunger is the vivid and most critical expression of poverty and misery” (Hirai and Sacco dos Anjos, 2007).

⁷⁰ The currently named Forum for Brazilian Sovereignty and FS (FBSSAN) was composed by more than 50 civil society entities. Today, it stands with more than 100 organisations of different constituencies and regions of the country (the complete list is available at www.fbssan.org.br).

The third articulation of civil society demands came from what is known as the ‘parallel government’ group. Created in 1989 and coordinated by the group that acted in the presidential campaign of Luiz Inácio Lula da Silva, the parallel government aimed to monitor and supervise the government of the newly elected president Fernando Collor de Mello. The group outlined a national policy for food and nutrition security, emphasising both food availability and access to food as having equal importance in overcoming the country’s food insecurity situation⁷¹ (National Plan to Combat Hunger and Poverty) (Pessanha, 2002). This document attributes food and nutrition insecurity to the *“iniquitous distribution of income, which results in low and irregular food demand, and the unsatisfactory and unstable production of food, caused by a socially unjust productive structure and economically inadequate food system* (Lula and Gomes, 1991 p, 6). Additionally, this early diagnosis pointed out that access and availability are two sides of the same conundrum and cannot be taken as individual pillars. It was then proposed that one core element for policy design should aim to bridge rural development and FNS by forging new relationships between FFs and vulnerable consumers (e.g., food distribution networks, schools, and other public canteens such as popular restaurants). With time, this document set the basis for the design of ZH strategy.

It is from these three concrete moments of intense civil action⁷² that social movements and civil society organisations began to enter to the sphere of FNS policy formulation. In addition, they increasingly began to be recognised by the state and seen as a topic of political interest for progressive parties (Peixinho et al., 2010). The creation of the CONSEA in 1993 and the organisation of the first CNSAN in 1994 are early examples of this. Both aimed to work towards the establishment of SISAN. Both treated food insecurity as a national issue (not only an occurrence of the Northern states) and as part of welfare policy.

These civil society led groups began to insert right to food approaches to FS and the nutritional dimension by demanding a domestic agri-food model from the state based on FFs, right to access to food, nutritional adequacy, and food quality. Since then, civil society demanded that the issue of FNS is not only about dealing with hunger of specific groups, but rather it should be understood first and foremost as the right of current and next generations of Brazilians to have access to adequate food (Valente, 2000).

Despite these advances, from 1995 to 2002, with a governmental change,⁷³ CONSEA was abolished and in its place came the Solidarity Community Council. This organisation dealt

⁷¹ In 1996, 10.4% of Brazilian children were still undernourished (Monteiro, 2003).

⁷² Doimo (1995) labels this phenomenon as “turn and the voice of the popular” because social movements participate in the political construction of the country. Costa (1994) calls it the “rediscovery of civil society and social movements”, and Vieira (2001) names it the “citizens of citizenship”.

⁷³ In the Fernando Henrique Cardoso presidency (1995-2002), hunger once again became the central notion to the design of FS policies and two orientations guided programmes and actions: the replacement of universal

with the implementation of the Community Solidarity strategy, which aimed to reduce poverty while reinstalling the traditional assistencialist approach to FNS. Although civil society's demands for the establishment of a national FNS system and policies were veiled during this time, their calls remained on the social memory and that opened the way for participation in the formulation and implementation of ZH. Hence, these years could be characterised as a phase of transition between the assistencialist, centralised, sectorial food policies and the emergence of reflexive governance environments.

Although ZH began to transform state institutions and some policies, it remained a government programme; a temporality deemed as inconvenient by both the recently elected government and civil society organisations. As a result, in 2003, CONSEA was re-established and the II CNSAN took place in 2004. In the II CNSAN, civil society outlined the guiding principles for a new National FNS law (Lei Orgânica de Segurança Alimentar e Nutricional [LOSAN]) and the requirements for the construction of SISAN. This system was devised with the aim of ensuring that new regulations of FNS and interconnected policies and programmes had their own institutional architecture and financial support. In this respect, Grisa and Schneider (2015) argue that the entrance of new actors shifted the FNS policy debate from productivist, assistencialist, and anti-inflationist frames to resolve the problems of food insecurity towards social rights. In doing so, the realisation of the right to adequate food became the central notion that civil society fosters to improve the Brazilian FNS situation, as established in LOSAN:

“The realisation of everyone’s right to regular and permanent access to enough food of good quality without compromising access to other basic necessities, and based on food practices that promote health, respect cultural diversity, and are environmentally, culturally, economically, and socially sustainable” (underline added) (Brasil, 2006b)

In the following years, the mobilisation of civil society and political actors through CONSEA, CNSAN and FBSAN accomplished to include access to food in 2010 within the set of basic human rights in the Brazilian constitution. In August of the same year, LOSAN was regulated through the design of the National Food and Nutrition Plan (PNSAN) that, in 2011, became the first integrated national FNS strategy. Both designed during the III and VI CNSAN, this gave coherence to the multiplicity of food policies, programmes, and actions at multiple levels and scales. This completes a long cycle of construction of the Brazilian legal, institutional, and governance structures that forms SISAN (see, Figure 9).

policies with compensatory and localised policies, and the replacement of federal programmes based on the distribution of food by cash transfers managed at the municipal level.

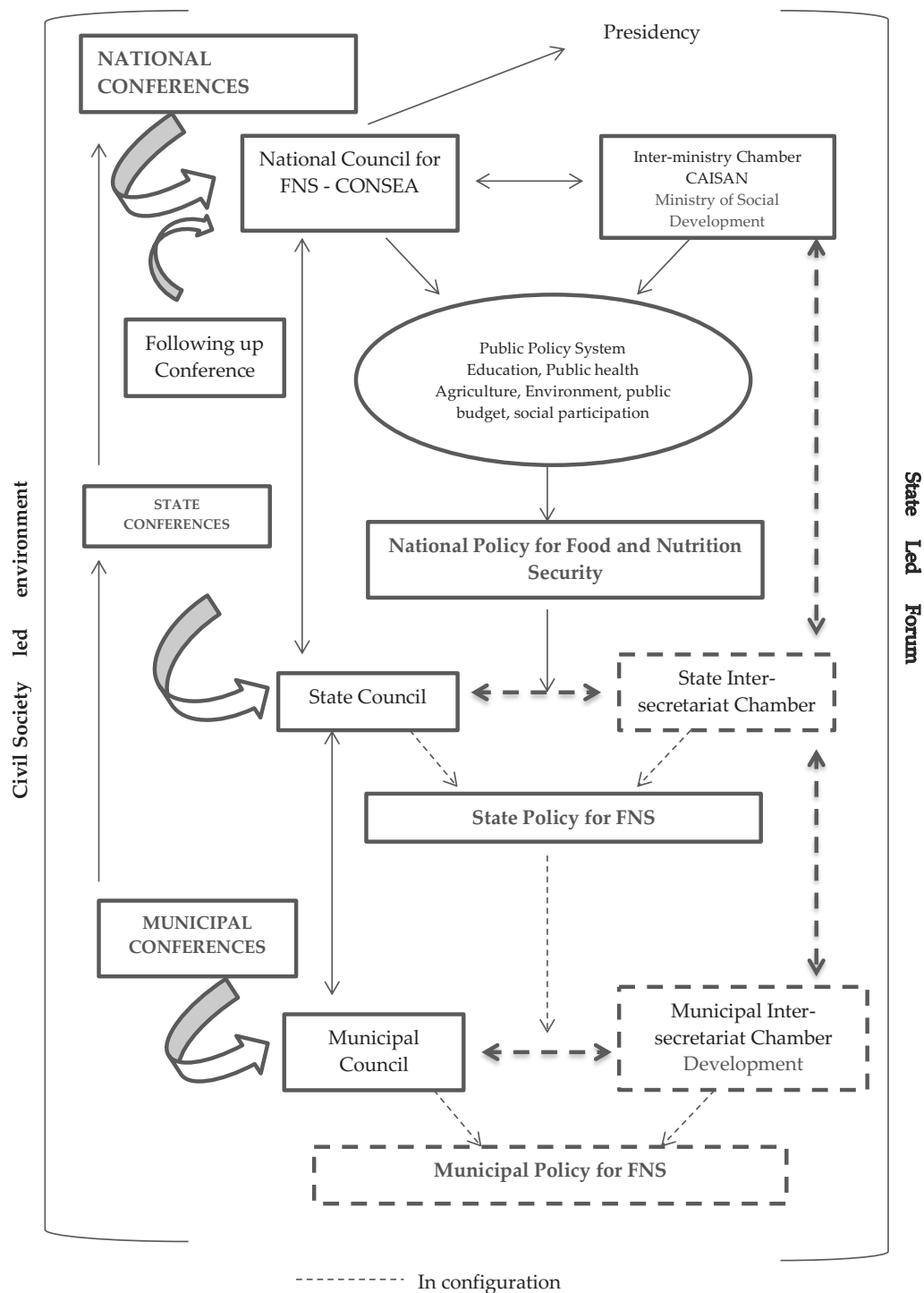


Figure 9 SISAN's governance structure

In particular, SISAN has three mutually interdependent reflexive governance arenas that facilitate a multilevel, coordinated, and participatory management of FNS policies at the federal level. The CNSANs, which take place every four years, are responsible for identifying the national priorities for FNS. Participants include representatives from civil society and the public sector who are members of regional or municipal food and nutrition security councils. The conference gathers around two thousand participants involving approximately 75,000 people and representatives of more than 3,000 municipalities. Its composition represents the broad social, regional, ethnic-racial and cultural diversity that characterises our country. Participants include FFs, professionals and technicians with various backgrounds, public managers from the three levels of government, indigenous peoples, the black population, and representatives of traditional peoples and communities (quilombolas, terreiro, extractivists, artisanal fishermen, caçaras, pantaneiros, geraizeiros, caatingueiros, emancipators, shellfishers, rubber tappers, faxinalenses, grassland communities, Pomeranians).

Prior to the realisation of CNSAN, its organising committee prepare and distribute a baseline document with major themes and initiatives to be discussed at CNSANs. 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 in charge of the final conference declaration, which should be approved by the majority of participants. Finally, a selected group of civil society representatives gather two years after the realisation of the conference. In doing so, they follow up what CNSAN proposals have been advanced by the federal government, giving additional inputs for the preparatory documents of the next CNSAN.

It is important here to highlight that the CONSEA has tried 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 (CONSEA, 2011).

The FNS priorities identified by the CNSAN are then discussed in the second main arena of SISAN: CONSEA, an advisory body that includes 19 representatives from the federal government and 38 from civil society, which is in charge of facilitating communication between all institutions and organisations engaged with FS. 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 director, 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. In the presidential

organisation chart, CONSEA directors have similar access to the president as ministries. This allows the executive branch to coordinate efforts and back proposals in relation to FNS policies.

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 Inter-Ministerial Chamber for Food and Nutrition Security (Câmara Interministerial de Segurança Alimentar e Nutricional [CAISAN]). This is 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 FNS councils and of inter-secretariat chambers. The first mechanism (which can be utilised to attract federal funding) has been very successful; in 2010, all states had a FS council and 23 of them were preparing or had issued their own food and nutrition security law. Likewise and in spite that inter-secretariat chambers are not directly eligible for federal funding, have been established the majority of federal states. Nevertheless, until 2016, only 12 federal states have formulated state planes for food and nutrition security.

Since the organisation of SISAN, PNAE was highlighted as a transversal and core FNS strategy able to achieve multiple goals a result of embedding PNAE into SISAN, 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 the creation of markets for family farming-based rural development. The origins of this legislation can be traced back to the recommendations of the II CNSAN when participants insisted on:

"... effective decentralisation of school meals; differentiate and increase the financial resources per capita according to the socioeconomic reality of municipalities, prioritising high-risk populations (specific populations), (...) inclusion in school meals of healthy food and local food culture, (...) improve the nutritional quality making healthier school meals, taking into consideration the regional food habits, ensuring the acquisition of fruits and vegetables from local production"(CONSEA, 2004).

Moreover, CONSEA recommended the creation of a Working Group on School Feeding, composed of representatives of FNDE and the Council to discuss the political and institutional needs for the school food reform. Among other measures, this WG proposed to pass a new procurement law to facilitate public purchases from FFs. This proposal was actively supported by the civil society group named the Brazilian Forum for Food and Nutrition Security FBSAN and family farming organisations and materialised through Resolutions 38/2009 and 26/2013 of FNDE.

This law established new methodologies for subnational authorities regulating procurement for smallholder farmers. Since then, local governments must use at least 30% to purchase products from FFs, 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 (Brasil, 2013). In this policy context, 'local' refers to the places where family farming activity is carried, within formal county jurisdictions (municipalities, regions, and federal states). In other words, it is a physical distance.

The new school food law also reorients PNAE goals by identifying six interconnected intervention axes 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 FFs, rural enterprises, and traditional native communities; and
- To enhance the food and nutritional security of school children, especially the socially vulnerable (Brasil, 2009).

In addition to giving municipalities the option to use an alternative bidding process, the law delinks public procurement from cost reduction strategies. Price is no longer the convention to reward suppliers. On the contrary, foods embodying sustainable and public health nutrition benefits are to be prioritised in the new law. For instance, the school food policy also establishes the schedules and foods appropriate to each type of meal (breakfast, snack, lunch, dinner, etc.) considering the local food culture and the portion differentiation according to age, nutritional needs, specific characteristics (intolerances, allergies) and ethnocultural peculiarities of the region. Furthermore, PNAE assumes as premise restrictive criteria to the detriment of processed products. In fact, it bans the use of canned goods, sausages, sweets, compound foods, ready-made or semi-prepared foods, concentrated foods (powdered or dehydrated for reconstitution), foods with a high sodium or saturated fat content, and beverages with low nutritional content.

Another innovation is the requirement to circulate all the information regarding the composition of the menu, including food provenance, technical data sheets of preparation, and nutritional information. This in order to fulfil the right be informed about the service.

With regard to nutritional issues, the law establishes that the state should provide at least 20% of the daily nutritional needs of schoolchildren (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).

Clearly, the new legislation opened spaces for local authorities to buy food with value beyond the price and nutritional content (see, Figure 10). One year after its implementation, 47.4% of the municipalities have acquired food from family farms. In 2011, municipalities procured from FFs averaged 22.7%, especially non-processed or minimally processed foods. The southern part of the country had the highest percentage of procurement from FFs (71.3%). In 2012, the proportion of these acquisitions in Brazil increased to 67%.

Research indicates that the significant regional gaps in the acquisition of food is due to the existence of a range of barriers, including higher transaction costs for individual schools to make direct food purchases; the persistence of infrastructural weaknesses; contracting out of school food services, the logistics of supplying large cities; lack of political support at lower scales; lack of FF fiscal documentation; non-existence of cooperatives or FFs’ associations; and distrust over government procurement procedures (Triches and Schneider, 2010, Triches, 2015).

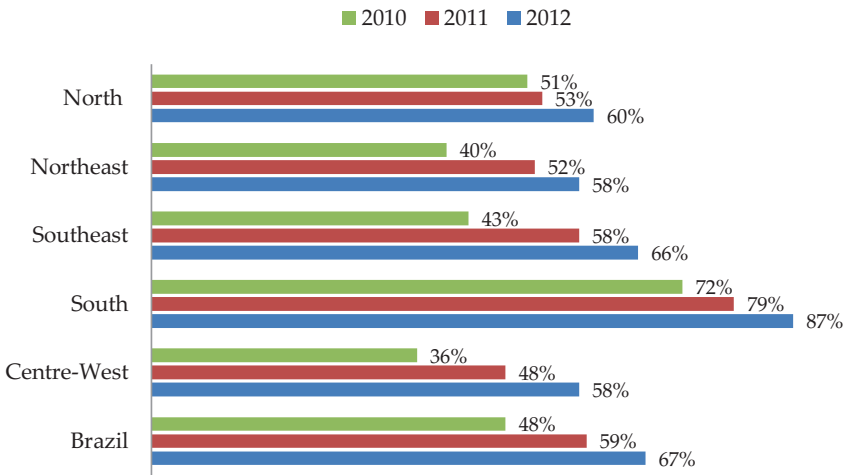


Figure 10 Implementing agencies purchasing food from FFs
 (Source: IPC-IG, 2013)

To take part in the tendering process, farmers must be formally or informally organised in groups and must be in possession of the DAP. Interestingly, the total amount of food individual farmers can sell to schools is capped to prevent a monopoly of the market by larger farmers. Since 2012, the overall amount of food that FFs were allowed to sell to schools increased from a maximum value of R\$ 9000 per DAP to R\$ 20,000 (US\$ 10,000) per

DAP/year to enhance capacity to supply schools located in large metropolitan areas (IPC-IG, 2013).

While fostering shorter supply chains for FFs is a major achievement (and well-known example of sustainable food procurement) of embedding PNAE into SISAN, the sustainability profile of PNAE goes beyond the bridging of marginalised producers and consumers. Creative or sustainable SFP in Brazil also entail the ways in which PNAE fosters public health nutrition and interrelates with other school food actors, as indicated in PNSAN. Table 6 summarises what Brazilian literature identifies as constitutive features of a holistic school food approach. It includes children's nutritional wellbeing, promotion of healthier consumption patterns, promotion of social inclusion, empowerment of school food actors, respect for traditional foods, and relationships with other FNS programmes.

Table 6 Main themes and indicators of the Brazilian whole school approach

Criteria	Whole school approach indicators
Characteristics related to the menu	<ul style="list-style-type: none"> • The offer of the six basic food groups (cereals and tubers, legumes, vegetables, fruits, meats, and dairy) • In addition to the main meal, the school provides breakfast or snacks • Time adequacy according to the type of meal served and child age • Exclusion of canned foods, formulated products, fried foods, chocolate and sweets
Quality of the menu; students' Health and Nutrition Education	<ul style="list-style-type: none"> • Design of school menus by professional nutritionists according to food culture, students' health condition and regional products while developing acceptance test for new recipes and foods • Diagnosis and monitoring of children's nutritional status • Development of school or municipal gardens • Nutrition education as part of school curriculum
Public empathy towards and empowerment of cooks	<ul style="list-style-type: none"> • Provision of personal protective and daily clothing • Courses and training • Monitoring of cooks' health condition • Public recognition and appreciation of the profession of school cooks • Career development plan for cooks • Bonuses and financial incentives
Local development	<ul style="list-style-type: none"> • Food purchased from FFs and small food ventures • Joint actions of the municipal secretariats • Actions towards the formalisation (legal documents, food safety) of farmers • Farmers' training • Organisation of transport and logistics • Construction and operation of municipal distribution processing centres • Empowerment of farmers through public acts of empathy

Production systems	<ul style="list-style-type: none"> • Inclusion of organic, agroecological, or socio-biodiverse products in the school food menu
Civil society participation	<ul style="list-style-type: none"> • Participation means that CAE is an active and independent body that meets frequently to discuss relevant issues, makes visits to the school, accompanies the process of bidding and public calls, appreciates the relevant documents and accountability, gives suggestions, and is not influenced by the executive branch. • Capacity building for the school food council members
Menu designed to cater for the specific needs.	<ul style="list-style-type: none"> • Appreciates and celebrates the culture of indigenous and/or quilombolas in the menu design • Food procurement from indigenous and/or quilombolas • Indigenous and/or quilombola participation in CAEs.

Finally, the new requirements to address obesity in the Brazilian population pushed for changes to the composition of school menus. In this context, school meals should also include at least three servings of fruits and vegetables per week (200 g/student per week). Likewise, municipalities should hire professional nutritionists who are in charge of designing menus and on many occasions to materialise the link between city-FFs:

“Well, before the law, we had tried to buy fish balls from an artisanal fishermen organisation. We knew that increasing the consumption of fish in our city would be beneficial for the health of schoolchildren. We also knew there was one artisanal fishermen organisation that could supply the quantity and quality the department was looking for. But we succeeded only one time – the strict reward criteria of the previous procurement law and the bureaucratic barriers make it almost impossible to buy healthier products, but with the new law things began to change and now we can provide more adequate school menus” (Nutritionist 4).

Reflexive Governance for Food Systems Change: An Analysis

Like many high-income countries in the industrialised North, Brazil had originally embedded its public food system into a productionist approach to FS. Reflecting an early emphasis on food aid, input substitution and an assistencialist approach to FS, the Brazilian public food system was designed to support industrialisation of the food system and commodity exports while excluding artisanal primary producers as well as large portion of the vulnerable groups from the national school food campaign. In this context, FFs began to develop a political countermovement to the agribusiness complex. While the industrialisation of food systems as means to induce economic growth dominated the policy agenda from the sixties until the late eighties, by the nineties procurement regulation began to be informed and shaped by ideals of open competition, transparency, non-discrimination, and cost-reduction. This was the result of a shift towards neo-liberal frames for development, and structural adjustments began to take place in Brazil.

Nevertheless, one cannot forget that contrary to what happened in Europe or the US, in Brazil, changes towards competitive tendering were accompanied by the state function fulfilling the new set of social rights and demands as a result of the restoration of democracy in the country. As such, school feeding became a constitutional right to be operationalised in a participatory decentralised governance structure, substantially widening the service beneficiaries (as opposed to deepening the quality). These occurrences were described as the unfolded history of school feeding initiatives.

The publication of the National Study of Family Expenditures in 1974, the hunger map in 1993, and civil society action uncovered the failure of conventional FS policies and programmes. ZH marked the beginning of a new era that has eventually placed Brazil at the forefront of the global fight against food insecurity. In addition to achieving 1999's 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 FS. As shown in table 7, the percentage of food-secure households increased from 65.1% in 2004 to 77.42% in 2013.

Likewise, the incidence of underweight children under the age of five also reduced from 5.6% in 1989 to 2.2% in 2007 (Monteiro et al., 2010), and substantial improvements have been recorded in relation to infant mortality rates, school attendance levels, and rural development outcomes (Rocha et al., 2012). Despite these achievements, regional variation is significant; in the poorest regions of the North and North-East, 15% of the population suffers from chronic malnutrition against a national average of 7% (CONSEA, 2010a). The figure is especially high amongst indigenous communities, where in 2009, as much as 26% of children were malnourished (Ibid).

Table 7 Percentage of households in food in/secure conditions

	2004	2009	2013
Food secure	65,1	69,83	77,42
Mild insecurity*	18,04	18,68	14,78
Moderate insecurity**	9,92	6,51	4,57
Severe insecurity***	6,95	4,98	3,23

Source: data from Ministry of Social Development and Hunger Fight – MDS

* Occurs when there is concern over the availability or quality of food in the future.

** There was an indication the quality and/or quantity of food consumed was compromised.

*** There was an indication of reduced food intake or food deprivation.

As mentioned earlier, more access to processed and energy-dense foods by large parts of Latin America has caused a significant spread of mal-consumption in Brazil. For example, in Brazil, overweightness in adults increased from 40% in 2002/03 to 51.1% in 2010 and

54.1% in 2014 (FAO and OPAS, 2017). An increasing trend is also present in reported cases of clinical obesity that in 2010 reached 17.8% and in 2014, 20%. Reports also find that the increasing trend in obesity figures is more likely to be found among the low-income population; in high-income segments there is a decline⁷⁴ (Wanderley and Ferreira, 2010). Likewise, overweightness in children is on the rise and it is estimated that 7.3% of children under five years of age are overweight. In short, these figures of obesity and overweightness corroborate that in Brazil, the FS equation is bimodal.

The analysis of the evolution of PNAE highlights the importance of three different but complementary strategies that have been used to embed multiple values in the public food system, through the construction of a reflexive governance system for FNS. In the first place, the assembly of the meaning of FNS began with the premise of national self-sufficiency of staples in the production of food. In this context, the strategic role of family farming became a sort of endogenous model of production for supply of the national market (Instituto da Cidadania, 2001). As a result, the state developed the first and second generations of agricultural and agrarian policies.

During ZH, the earlier policy's emphasis on credit and land reform was complemented with the creation of PAA to offer a viable commercialisation channel for their farming styles and outputs. Furthermore, PAA creates markets for those FFs who are not directly linked to long supply chains and without the need to reach intermediaries or wholesale markets. As in the case of PNAE markets for FFs, the state fashioned new institutions, policies, and decentralised mechanisms to manage and connect FFs to consumers in a food-insecure situation.

Secondly, what ZH represents is the materialisation of previous civil society demands that allowed the construction of FNS as public policy enabled by participatory forums like CONSEA and CNSAN. In these assemblies, policy-makers and civil society organisations discuss, define, and redefine the meaning of FNS and the set of actions needed to achieve it. The policy definition of FNS as established in LOSAN is based on the right to food approaches to FS. Yet, the Brazilian approach is distinctive from the widely-recognised FAO definition⁷⁵ of FS.

While both place emphasis on the access side, FS definition in Brazil radically departs in two fundamental aspects. On one hand, it operationalises the timely occurrence of FS's 'existence' in terms of the right to food and the state as guarantor of it. On the other hand,

⁷⁴ With the exception of the North-East region, where obesity continues to emerge and overweight numbers continue to increase among all income groups.

⁷⁵ The 1996 World Food Summit adopted what is until today a well-established definition of FS: "FS 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".

it places food practices at the centre of fostering change towards the policy principles emerging at the CNSAN. In doing so, it decentres FS from reified concepts and formal representations of dependency between availability, access, utilisation, and stability. In fact, FS in the concrete is seen as an outcome of the provision of public policies, designed in a participatory fashion, that is at the same time indivisible from the multilevel set of responsibilities and roles of the Brazilian government and the food system activities (e.g., producing, processing, distributing, consuming), which are produced and reproduced through the practices these activities (and their interrelations) generate.

Saying that FNS is a policy category in a field of permanent (de)construction does not translate into ambiguous implementation strategies. On the contrary, LOSAN established what FNS entails but it is at the PNSAN that this meaning is operationalised and brought from policy to implementation. For instance, in line with the discussion of the principles of LOSAN, the PNSAN guidelines include: ensuring access to adequate food in qualitative and quantitative terms; the right to information; autonomy in production and consumption decisions; respect for traditions and cultural eating habits; the diversity of territories and spaces; promotion of family agriculture and agroecological practices; the safety of foods; the access to decent income; specific food needs and specific groups; ethical concerns with current and future generations; and the sustainable use of natural resources throughout food provision activities. Conceptually, PNSAN represents actors' engagements with the transformation of the very system in which they belong, or SISAN – a key feature of reflexive governance which goes beyond the traditional representation of networked governance (Hendriks and Grin, 2007).

The meaning-action oriented notion of FNS is a form of reflexivity aiming to anticipate food systems relationships with the past, present and the future. Takagi (2006), for instance, argues that the incorporation of the notion of right to food brought changes in policy direction and fundamental praxis in the food system. On one hand, it emphasised the universal character of policies to combat hunger and to promote FS where all Brazilians have the right to adequate food. This means that people can claim their right if they are not being fulfilled. On the other hand, it ensures that resources employed in addressing undernutrition are not used with the objective of gaining political advantage.

SISAN democratically constructs past experience, actions, novelties and expected outcomes at the municipal, state, and national conferences, enabling a form of 'genetic reflexivity' to deal with and promptly respond to the constantly changing character of the Brazilian NFE. Indeed, CNSAN, CONSEA and CAISAN are designed to foster a governance environment that enables constant iterations between actors located at different scales and stages of the food system as a mode of bowing and rowing.

These forums are identifiable arenas of deliberation where food producers and consumers, institutions and practitioners, scientists and policy-makers can share their experiences and negotiate their priorities on behalf of their constituencies. They represent reflexive governance arrangements “...in which actors work together to scrutinize and reconsider existing systems, and the broader rules and paradigms within which they operate” (Hendriks and Grin, 2007 p, 334). Moreover, and because CAISAN is a intersectorial state-led environment, it can be said that CNSAN and CONSEA’s set of demands are accommodated within the different layers of the government. That is to say that SISAN is designed in such a way that participants need to consider the political context within which SISAN operates and PNSAN is built upon.

But reflexive governance arenas are not only constructed to design and monitor FNS policies at national, state, and municipal levels. This is clear in specific programmes like PNAE, where Brazilian CAEs continuously encourage key school food system actors to adapt their frames, structures and patterns of action in ways that consider alternative understandings of the problems (Marsden, 2013) and frameworks of action. In short, the participatory-constructed Brazilian FNS approach has been instrumental in counteracting the effects of deepening into neoliberalism and commodification of the public FNS system, which, as several scholars have argued, makes individuals increasingly unable to negotiate on behalf of the collective with respect to social goods (Harvey, 2007).

One clear benefit of this alternative path has been the capacity to imaginatively inset right to food, food sovereignty and sustainable food system approaches into PNSAN. While FS is often associated with productionist frames or a global trade oriented paradigm – thus regarded as counterproductive to achieving genuine FS (see, e.g., Jarosz, 2014)– in Brazil, they are relationally constructed. Such form of inter-discursive reflexivity emerges during the organisation and realisation of CNSAN where FNS merely expresses a meta-objective subordinated to the realisation of the right to adequate food (Leão and Maluf, 2012).

Hence, there are different strategies that could potentially help to achieve it. For example, in Article 5 of the LOSAN, food sovereignty implies that the state, in all spheres of government, makes effort to respect, protect, and guarantee the autonomy of peoples throughout the food chain, in accordance with their livelihoods, food culture, and practices. Moreover, PNSAN aims to increase transparency and access to fairer markets through democratic governance⁷⁶ of SISAN. Such policy refinement points to the conclusion that the reflexive construction of FNS is conducive to the SISAN’s ‘systemic approach’ to the extent that securing food not only relies on distinctive means to achieve it (food sovereignty, sustainability, and right to food), but depends above all on their interrelations.

⁷⁶ Food sovereignty in SISAN entails both a reliance on FFs for the supply of food for domestic markets and the creation of fairer, more transparent, and democratically governed commercialisation channels.

In this way, SISAN interacts with PNAE and the latter with rural development. In fact, PNAE regulations interconnect the right to school food and public health nutrition with the sustainability of agri-food systems and socio-economic development. Thus, by creating localised markets for FFs, paying premium for agro-ecological foods and promoting the diversity of diets, PNAE bring to the field of implementing food policies alternative ways to develop the rural – beyond its traditional role of commodity producer, and focusing on the wellbeing and sustainable livelihoods of FFs.

Moreover, PNAE have sharply increased access to institutional markets for both smaller scale FFs and vulnerable consumers who were previously excluded from participating and benefitting from them. As it is shown in Chapter 5, the participation of FFs in PNAE or other institutional markets supports the creation of or entrance into established 'nested markets', where FFs directly connect to consumers without state mediation. From this angle, PNAE have the capacity to contribute to strengthening local food systems by organising shorter supply chains and streamlining 'alternative' modes of food provisioning.

It is important to emphasise 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. Likewise, in some cases, CAEs remain instrumental to the municipality request for deferral funds and are not a real instrument to improve the quality of the service. 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 CONSEA by including representatives from other constituencies (such as fishermen, associations of citizens with special dietary needs, and humanitarian organisations fighting against racism and social/gender inequalities).

However, a comprehensive study on regional councils (de Moura and Monteiro, 2010) found that the feedback received by vulnerable communities from their representatives is too often insufficient, especially for the non-organised sectors of civil society. It also should be noted that in this analysis of SISAN, the lines of political communication, politics and particular interest of some potentially powerful actors were not considered. However, the literature on reflexive governance points out that this omission has some perils, particularly

as reflexive arrangements are prone to be influenced by the surrounding political context⁷⁷ (Voß and Bornemann, 2011)

Much still needs to be done to combat the tendency toward the 'elitism of participation' in the deliberative spaces of Brazil. Nevertheless, it is significant that the promulgation of the FS 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. Kepple et al. (2012) point out that 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 in creating an immediate awareness of the ever-changing threats to FS (such as the recent rise of obesity levels or the elevated presence of pesticides in fruits and vegetables) that have been emerging in Brazil.

If the emphasis on national sufficiency led to the re-valorisation of FFs and the creation of deliberative spaces facilitates the country to reduce the diversity and complexity of social problems associated with FNS to a set of realisable and shared goals (that remain, however, open for negotiation between the federal government and the more organised segments of civil society), then the third main strategy adopted to maximise the FNS potential of PNAE is decentralisation. Throughout its recent history, Brazil has steadily devolved both power and responsibilities to local school food actors in recognition of local needs. This has created space for local flexibility and the multi-faceted FNS needs in a country as diverse⁷⁸ and large as Brazil.

As described earlier, over time, municipal governments (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 particular school food strategies. 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 9, decentralisation has also entailed a distribution of tasks and responsibilities across the state and civil society at multiple levels, which occurs mostly

⁷⁷ Particularly, the forms of multilevel and multi-scale political interaction, and how they might strengthen or displace routine understandings and traditional institutions (Hendriks and Grin, 2007).

⁷⁸ Culturally, eco-systemically, politically, administratively, and historically.

through the work of CONSEA and the CNSANs. 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 FS and the most recent literature on food governance, which highlights the importance of the local scale in building and fostering food systems change (Mendes, 2008, Morgan and Morley, 2014).

Administrative and policy decentralisation, on its part, has fostered experimentation and social learning in Brazil – another crucial outcome of reflexivity. It is in fact at the local level that the relationships between food producers, the managers of the school food system and other school food actors (or, more broadly, between different participants of the provision chain) are negotiated and strengthened. A key factor in this respect is the mediation of collective bodies (such as the CAEs, producer organisations, and municipal nutrition departments) who negotiate needs and wants on behalf of their members while facilitating the integration of the different meanings, competences and infrastructures of producers (i.e., school food suppliers), procurers (i.e., municipalities) and consumers (i.e., the schools) into a particular school food strategy.

These two polycentric governance mechanisms – i.e., the establishment of national spaces for deliberation on FS and the decentralisation of the school feeding programme – identify FFs as key players for an inclusive operate in tandem, with important complementary and synergistic effects. Indeed, while forums such as the CNSANs, CAISAN, and the wider SISAN framework ensure that the values governing FS can only be defined and negotiated at the national level through PNSAN, decentralisation in practice implies, amongst other things, that the qualities of the food observed in schools are specified or negotiate at lower scales.

Through an emphasis on a whole school food approach, PNSAN has been encouraging local authorities to explore a range of strategies (such as those shown in Table 6). In relation to linking FFs to school meals, the FNDE encourages local authorities to: create joint actions between municipal secretariats to support farmers in the process of participating in the school food market, compliance with food safety regulations, and promotion of food mapping; establish formal producer associations; formulate commercial capabilities to surrounding FFs; facilitate transportation and logistics for producers; and implement municipal food strategies and laws that favour local development and encourage FFs. These strategies, however, do not 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.

While the wider governance context has been able to establish, manage and pioneer a public system for FNS, it is also a fact that this type of system evolves alongside the productivist and consumerist compromises, as can be discerned from a conversation with a food safety officer:

“.. when you are going to inspect or certify a supermarket, you do not spend more than an hour. You can see at the entrance that everything is fine. All products are labelled according to legislation, with visible expiration, the cooling units are at the right temperature, and fruits and vegetables are always fresh. On the other hand, a visit to a FFs association or industry can take you a full day, and you are never sure of the quality of the foods” (Food Safety Officer).

Moreover, although decentralisation facilitates the purchase of local fresh foods – consistent with the local food culture – procurement managers continue to prioritise cost reduction on bidding processes. Research shows that while FFs could cover the vast majority of required school food, in large and medium size cities, conventional providers remain dominant players on the market. Subnational units can still decide which tendering process can be put in place for the additional 70% of PNAE financial resources. In addition, they can justify the reasons for excluding FFs food in the menus. Often, scale and absence of ‘diverse local family farming foods’ is enough to explain this. Likewise, it is not an exemption to encounter major infrastructural weaknesses at municipal level to enable the functioning of the school market for FFs (especially storage and transportation). Furthermore, over years of disinvestment in city-local agricultures, there is a lack of built, social, and human capital needed to operationalise the school food reform.

There are also barriers related to the difficulty of organising menus around seasonality and planning production by FFs (who often lack technical assistance), to the challenges raised by health legislation and to a general lack of productive communication between actors involved in the reform of the school food service.

In spite of these weaknesses, it is however important to note that the wider governance context has the capacity to overcome these barriers through the presence of multiple and polycentric coordination nodes that ensure interdependence between different components and actors – a feature that is deemed crucial to facilitate the emergence of local innovations (Pérez-Escamilla et al., 2012). Indeed, the FNDE has been managing tensions emerging from pressures of the consumerist and productivist compromises (‘first order reflexivity’), such as changes in the federal procurement legislation, pressures from the food industry and conventional suppliers, by regulating the bidding process for FFs and banning unhealthy foods (Brasil, 2009, Brasil, 2013).

At the municipal level, guidelines provided by the FNDE and the Ministry of Health are implemented by the education secretariats or nutrition departments. They are the bodies that at municipal level are in charge of directly deal with food suppliers. This ensures that other municipal procurement stakeholders remain under the scrutiny of FNDE in case of conflict of interest. Finally, the double function of the CAEs (as both deliberative and overseeing bodies) helps to formalise the links between schools, nutritionists, and the FNDE (Peixinho, 2013), which authors claim that is crucial to enhance and legitimise the school food reform (Belik and Chaim, 2009). In other words, SISAN, decentralisation, and the new school food law do not directly translate into the transformation of the school food system. It is on the hands of procurement managers and the particular configuration of PNAE at local level whether or not to enact a comprehensive school food reform.

Summarising, reflexive governance represents one 'enabling environment' that unfolds through PNAE across levels, scales and coordination nodes, where the values and meanings of FS are defined collectively (at the national level) but are interpreted and applied in different ways (at the local level) and throughout the provision practices (as FNS is defined in Brazil). 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 will be argued in the coming chapters, these three processes cannot be understood in isolation when studying the school food reform.



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Chapter five: The School Food Reforms in the city of Porto Alegre

This chapter aims to investigate the governance of practices in the city of Porto Alegre –Brazil- when changes in PNAE implementing framework occurs, specifically in relation to what are the answers to normalised governance practices when school food system's actors seek to enact school food reform policies. Methodologically, the chapter explores the first horizontal sub-units exposed in figure number four by using the constructed analytical device.

Introduction

As established in the previous chapters, PNAE laws and governance architecture differs from the dominant modus operandi providing the school food service across the globe (Sonnino et al., 2016). In particular, the establishment of school food as a universal social right, PNAE decentralisation, civil society participation and embedding PNAE in the framework of SISAN are the meta-governance structures that give normative principles to the Brazilian school meal programme. Other major structuring forces previously identified and transversally connecting attempts to reform PNAE are public procurement laws. Over years and similar to high-income countries, Brazil installed a public procurement culture based on neo-liberal values of cost reduction and open competition through the 8.666 law.

From the implementation perspective, this framework has been institutionalised as to offer reliable guidelines to design public bids, make contracts and establish a system of rewards and sanctions to public agents and suppliers. This occurrence becomes apparent when studying FNDE directives; when in despite of establishing in 1998 clear instructions of linking local agriculture to school meals, the construction of markets for family farmers was only possible once the procurement law was reformed in 2009.

In the analytical framework these structuring forces represent the contextual continuum shaping the situational context in which school food system actors operate. This is to say that by establishing diverse set of frameworks or normative standards the state maintains, alters or preserves PNAE policy orientation and values at national level. In decentralised governance architecture⁷⁹, however, pre-determining normative standards do not immediately translate into a uniform response of municipalities.

⁷⁹ In Brazil, the decentralisation processes of PNAE included: deconcentration of service delivery by transferring implementation obligations from the Ministry of Education to subnational units; partial devolution of power by ceding decision-making at configuring public bids and school menus, yet fiscal responsibility and nutritional guidelines remains centrally determined and; the option for subnational units to delegate to schools the direct implementation of the programme. According to Belik and Souza (2010) these characteristics permits

In addition to particular geo-histories and local institutional trajectories – which adds another layer of contextuality - materialising school food service derives from those processes that put together, in a workable whole, any of the operational templates originating at federal or municipal orders. This position holds the argument that at implementation level, the governance of PNAE is continuously dependent on the actor’s interpretations of policy principles, competences and material infrastructures –that is the provision of school meals hinge upon actor’s enabling activities and practices⁸⁰. Together the contextual continuity and the implementation levels can be seen in the following figure.

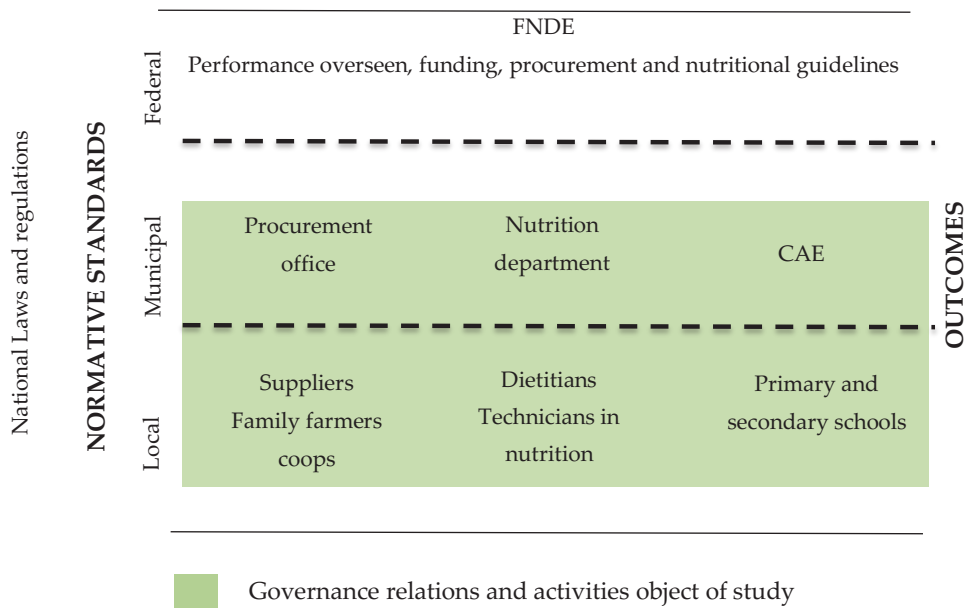


Figure 11 Governance processes studied in chapter V

It is important to mention that at subnational level, PNAE follows two implementation models: a municipality centred model in which the city is on charge of governing the implementation of the programme, including all activities from food procuring to service delivery at public schools and; school based model in which states or municipalities

that at subnational units generate particular school food trajectories until the extend that diversity, flexibility and local responsiveness predominate over standardised solutions.

⁸⁰ Similarly, Bevir and Rhodes (2011 p, 210) maintains that in governance processes, the actions of system participants are not fixed by institutional norms, but, arise from the meanings they attach to governance activities against the background of routinised performances and set of responses to the local dilemma. While this methodological understanding is similar to the one exposed in this chapter, it also differs in one fundamental aspect. Here, the making of the coherent whole (i.e., school food system), that enables durable relations between provision actors over time and space, is influenced by normative principles of policies, yet, its form, set of relations, incomes and outcomes are co-determined through the introduction, coordination, organisation or removal of practice components a local level.

transfer the funds to the individual schools and they become responsible for purchasing, storing, preparing and serving school meals. Although in the city of Porto Alegre these two models co-exist, this chapter focus only in the municipal centred model since individual schools do not procure food from family farmers in the proximities or create coordination arrangements to normalising reform principles or what is considered to be a promising good practice. The municipality-centred school network attends about 75% of pupils receiving public meals in the city.

Another important distinction emerging from figure 11 is that this chapter deals with governance processes (as opposite to structures) in the municipality centred model. In the case of the city of Porto Alegre, the research identified three governance nodes ⁸¹ (procurement office, nutrition department and CAE) in which governance relations exhibit the five components identified when governing the introduction, organisation or interlinking of practices and their elements.

Within them, actors establish school food goals, targets, avenues, means and scale of intervention. Likewise, each of the nodes has a distinctive, but related, set of governing activities that are explored in-depth in this chapter. For example: the procurement bureau (Central de Licitações) governs municipal activities related to the public purchase of good and services, including planning and structuring of public bids and contracts ⁸² and; the nutritional department (Departamento Nutrição) elaborates menus, set quantities and qualities for public bids, responds quality and safety of the service, develops pilot projects in relation to promising good practices and mediates the relations city-civil society or city-food suppliers and; CAE supervises the quality of service from procurement to final consumption.

Some of these activities are mediated by reflexive processes evaluating the contextual continuum vis-à-vis the municipal requirements, local needs, means and aims. Other forms of reflexivity are visible when actors face rooted or recurrent institutional procedures affecting alternative course of action. In this case and to avoid the repetition of performances, key actors at the governance nodes may interactively reflect upon the nature of barriers or social dilemma and encourage changes of traditional school food values. Both, evaluative process and reflexive performativity correspond to what in the methodological chapter are identified as first and second order reflexivity and conducive to food systems change.

⁸¹ Cooperatives are also governance nodes. Their governance processes and provision arrangements are described and analysed in the next chapter with the aim to answer the fourth research question.

⁸² While the new school food law establish that food procurement from family farmers is exempt of traditional procurement procedures and FNDE regulates the criteria for the allocation of contracts for family farmers, a key feature in the case of Porto Alegre is that the type of tender (e.g., electronic/presential mono-value/omni-values based) and applicability (or not) of the procurement criteria of the school food reform are at the discretion of the head of the public procurement department.

Finally, it is important to acknowledge that while reflexively constructed meanings embed personal concerns, in the concrete, efforts to overcome barriers or propose new ways of doings emerge from meaningful social interactions. This is to say that the chapter also unfolds actors' collective efforts through which they expressly organize and articulate the aims of the reforms for the transformation or defense of the city's school food system and practice arrangements enabling its operation.

In the context of this chapter, however, reflexive governance processes aiming to evaluate or modify municipal governing values are only a part of the equation. From the governance of practice perspective, enabling alternative meanings to become operational is also about embedding new meanings, competences and materials into the coordination and organisation of school food provision arrangements. This social process does not emerge in a vacuum. Contrarily, actors seeking to reform the school food system face normalised provision routines rooted in particular meanings, acceptability criteria, competences and materials.

Moreover, in many cases actors can decide not to introduce new practices or change how elements interlink on the whole city public food system. Alternatively and with the aim to preserve the functioning and form of the school food system, they decide to make experiments in pilot projects to test the viability of a proposed solution or to progressively expand the adoption of new ways of doings. Some of them may involve the access side, others require the reconfiguration of the supply based, while other target the relations among both, their competences and infrastructures.

This means that a closer examination of governance processes, at its place of occurrences (i.e. governance nodes) and the resulting arrangements of elements of practices and interlinks, can assist to inform the third research question, that is: what are the answers to normalised governance practices when school food system actors seek to enact the school food reforms.

In addition to focussing on governance relations at the nodes, this chapter examines the three major school food policy reforms: decentralisation, civil society participation and embedding PNAE in SISAN⁸³. Respectively and with the help of interviewers, in the first part of the chapter I describe how they confront and organised these reforms. In the second part of the chapter, I discuss and try to examine with the help of the literature review and methodological procedures the major findings. Finally, the present chapter contributes to the overall research design, by documenting the connections between local governance of practices and their connections of practitioners to engage (or retrieve) in the school food

⁸³ The later policy reform is the one aiming to directly intervene the field of food practices.

reform in particular, but more in general to link PNAE with other food security and sustainability initiatives.

Decentralisation and Embryonic Civil Society Participation

From 1987 to 1997, three consecutive city governments with a social-democratic policy agenda framed the decentralisation of the school food programme. At the beginning of reform, there was, in the city's schools, a generalised criticism on the school food quality and food security indicators, especially in relation to absence of refectories, low numbers of meals per day, and limited access to fresh and onsite cooked meals. In fact, in 1989, debates with school managers and schoolteachers covered subjects such broadening food access, a decent distribution system, the proper use of cutlery and the adaptation of school spaces into kitchens and restaurants. Then, school food managers designed a school meal strategy with the aim to link kitchen to dining halls, embedding food access within school social learning purposes. While before the reform school snacks aimed at 'filling some empty stomachs', the new approach emphasised that school food was not only about snacking. It is an integral part of children's educational experience and a food access strategy.

Determined to embed access to meals into a nutrition based educational experience, procurement managers preferred an experimental, but centrally coordinated, approach to nurturing change. Faced with the difficulty to visit all the schools and determining the nutritional status and material requirements, the city first ran a pilot project. In 1988, it hired 13 technicians in nutrition and opened the door for intern University students interested in nutritional practices. They were placed in the schools with more students within the municipal network. The goal of the pilot project was to tackle under nutrition and offer a safe school food service. It is important to mention that the city of Porto Alegre is the first large Brazilian city to place dieticians, nutritional and food safety standards. This is six years ahead of their federal sanctioning in the law that decentralised the programme in 1994 (Law 8.913 of 12 of July 1994).

Due to positive results in the first years of the school food reform, in 1992 the city hired 26 more nutrition technicians with the goal to place them in every major school. Since then, Porto Alegre remains the only large Brazilian city to have a division of labour and competences with these characteristics: 1) Nutrition director in charge of overseeing all aspects of foodservice, administering the school meal program in accordance to local governing values and federal policies, financial supervision, and managing the relations with the procurement unit; 2) Nutrition advisors in charge of overseeing the performance of assigned school districts, planning menu, development of nutrition education activities, kitchen management, training coordination; 3) Technicians in nutrition at school levels responsible for managing the day-to-day operations in individual schools, ensuring food

safety and meal quality, supervising kitchen personnel, place and receive food orders, ensure adequate amount of food and implements are available; 4) Kitchen staff composed of one or two main cooks, and two to seven kitchen porters according to the number of daily meals served. In addition, at the central office, there are supportive personnel to attend daily kitchen demands and maintain food flows running from contractors or central deposit to schools.

At the consumption side, Porto Alegre began to diversify meals in the schools and redesigned the menu on the basis of federal nutritional guidelines. The city configured menus for three different schools' categories: primary school, pre-school, and day-care centres. First grade scholars, who spend half-day in classrooms, were served two meals a day, consisting of one snack (a milk/dairy product in combination with cereals, biscuit, bread, or cakes) and a cooked lunch with some kind of meat, cereal, vegetables, and fruits. In pre-schools and day care centres, the city offered two or three sweet snacks with two warm meals, depending on how much time children were in school. In addition, the city diversifies the menus on the bases of children age, time in the schools and take-up ratio, and summer or winter versions. Finally, one of the main goals in menu design is not to exhaust kitchen personnel with several laborious preparations and avoid recipes that require the same kind of tools or equipment for its preparation

Alongside inserting nutritional standards into the programme, in mid-1989 another pilot project started. The city opened the first food bar or buffet-like canteen. The central idea was that students, by serving themselves under the supervision of a teacher, nutritionist, or cook, could enhance food autonomy. Since then, the city's emphasis on ensuring children autonomous control over the food they have access to, is accompanied by clear information of what constitutes an adequate school menu.

One teacher or kitchen staff accompanies pupil's meal selection, encouraging them to put together a balanced menu. One specific example is to offer unrestricted access to fruits and vegetables while limiting the consumption of meats, breads and sweets. Apace with acquisitions of salad bars, serving containers and eating utensils, the city began to heavily invest in the construction, adequacy and comfort in dining halls.

New kitchen space licensed schools to prepare fresh food on site. New refectories permitted schools to have sufficient facilities to accommodate students in a reasonable number of shifts. In general, a school kitchen inventory has one semi-industrial kitchen composed of 72 essential cookware (e.g., autoclave pan, large pots, etc) and 31 necessary cooking and preservation equipment (e.g., refrigerators of 4-6 doors, large freezer, oven etc). The essential infrastructure in refectories includes heat desk buffet, thermometer, food containers, dining tables, chairs, drinking fountain, ceiling fan.

Alongside improving the nutritional quality, numbers of meals, and eating experience, another key coordination task was underway. Initially, nutrition technicians were able to verify on-site quality and hygiene of the food (through physical inspections, cleaning procedures, and cooking techniques). Later the city developed quality and food safety guidelines to identify potential hazards for contamination and adapted national quality requirements to the local realities. These procedures include minimum hygiene standards, food handling practices, maintenance and cleaning procedures for equipment and eating locations.

It was also established that meals should follow the orientations given by the central department i.e., meals should be cooked in compliance with the menu designed and they should be well presented, tasty, served at appropriate temperature, and the schools should provide sufficient eating places for children. Moreover, at the moment foods come to schools, a technician in nutrition, or a trained dining lady evaluate the compliance with product specifications. In case of disagreement, there is a non-compliance document which is a standard record sent to school food managers to request for an exchange. The supplier is contacted to explain the situation and obliged to replace the food. All of this is supported by a communication infrastructure in schools and a nutrition department (e.g., phones, computer, offices, etc).

To emphasise the importance of nutritional headquarters and school kitchens a set of good practice manuals and a system of records were built. Regarding food safety, school staff must assure that school meals are safe for consumption. They should comply with the manual of good school food practices (cleaning, handling, sanitation, clothing, maintaining, and serving). Moreover, food is distributed and prepared in relation to perishability. At the beginning of the week, for example, eggs, meats, fish, and legumes, are used, avoiding the storing of meat in the refrigerator during the weekend when it cannot be monitored. Sensitive fruits and vegetables are to be used preferentially before Wednesdays.

In turn, a new set of competences for the personnel in the school was required, who until that moment served quantities of food intuitively based on a child's food needs. In fact, the nutrition officers develop 'building capability' programmes to study and find suitable solutions for service quality problems noticed during a certain period. They are for instance food handling best practices, cooking techniques, personal relations, nutritional qualities of food, food literacy, etc. Likewise, nutritional advisors weekly visit technicians in nutrition to encourage that food preparations are attractive, made with fresh foods avoiding overcooking or keeping meals in buffet for long periods. In return, both learn of school burdens such as storing and serving large quantities of meals, reduced lunch-time, morning hunger, low take-up rates, and food waste.

During decentralisation suppliers-city relations were not considered fundamental in the design of pilot projects or in the implementations of innovations. Moreover, school food assessments concur that the quality of the menu radically improved regardless the supplier provenance. For this to work, there is a division of responsibilities in the organic structure of the municipality. While the nutrition department retains authority over food quality, nutritional standards and minimum service conditions; the financial secretariat is in charge of setting procurement rules, times, and contract conditions.

The organisation of public bids under this scheme involves three steps: firstly, the nutritional department establish and hand over estimates of the quantity of yearly-required food and minimum quality standards to the procurement manager; secondly, the financial unit constructs public bids upon these conditions and initiates the procurement process, allocating contracts on the basis of the lowest price offer; thirdly, the responsibility of providing school meals returns to the nutritional unit that requests food from selected providers according to the school network periodic needs. It is important to note, however, that quality and price during this phase was exogenously determined and largely measured in normative terms. This is to say that providers' capacity to supply school food was deemed as adequate as far the product technical specification complied federal food safety and composition regulations. In addition and in the case of fresh food, product differentiation (first, second and third class), established at the regional wholesale market, prefigured its acceptability. Finally, lowering costs and competition values prescribed the organisation of public bids at the financial unit.

From 2002 to 2008 the school feeding managers began to set different pilot projects with the aim to embed school food into school learning values. All of the projects were financed by the city's own resources. The most mentioned by school food actors are: cooking workshops, best school meal recipe, school gardens, and zero waste. Some of them continue to emerge at occasional times in some schools by the initiative of schoolteachers, but so far only zero waste persists over time within the scope of the school meal programme. Indeed, everyday kitchen staff weighs the amount of daily food debris. By analysing these numbers, the nutrition technician is aware of the acceptability of each preparation. In case of excessive or widespread food waste, dieticians redesign the menu to ensure a continuing acceptance of meals. In addition, acceptability tests are also performed when new preparations are introduced or a new food item enters into the school menu.

During the first stage of the school food reform, civil society participation was less participatory and more instrumental to federal regulation compliance or organisational challenges. Since 1994, municipalities are required to form school food councils (CAEs) composed of public servants, teachers, and civil society representatives. At federal level, they are considered to be of prime importance in relation to monitoring meals quality, linking schools to municipalities, and overseeing budget. However, an analysis of public

records of meetings from 1996 to 2002 reveals that the first years the city focused on organising the council, setting the rules of participation, dealing with problems of low adherence of parents and teachers to meetings, elaborating the internal rule of procedures, and getting the approval of accountancy at the end of the year. The last two are alleged to be of legal obligation and were considered as crucial for federal transfers.

In the remaining part of the decade, the council began to slowly move-out from its *'following the rule'* or signatory task. The factors recalled for this shallow shift are associated with: presence of a school food activists in the council, nutritional department trust on CAE potential, allocation of means to facilitate CAEs member reunions, and a renewed role of school meals within the zero hunger strategy. Since then, supervising financial use of resources becomes a periodic activity, meetings are set on monthly basis, city presentation of school meals to the council is mandatory, nutritionists develop standards for the CAE members to check school kitchen performance. However, it had very limited capacity to intervene either in public tendering configuration or in the management of school food service.

In this context, it can be argued that the city did not perceive CAE as a core part of the reform; on the contrary it developed signatory participation while sidelining CAE from policymaking, planning and feeding back tasks. From the point of view of CAE's members, there are key factors that hinder their potential to participate in the reforms. Among the most frequently mentioned are: lack of financial resources to implement CAE's projects; limited communication between CAE activities and school directors; alignment with the nutrition department and not with procurement secretariat or decision makers; very low willingness of parents to be part of the council; reduced time availability vis-à-vis laborious obligations, and a slow process of building capacities, defining roles, and assigning responsibilities.

A second area of contention is the degree and kind of decentralisation the programme builds upon. Porto Alegre outsources the education of about 17 000 children to 221 private or philanthropic non-profit institutions. In this particular case, the city supply schools with food baskets of staples (kit alimentação) according to the number of students. And, schools directly purchase food items without the mediation of the nutrition or procurement departments. The municipality only provides nutritional advice and monitors from time to time food safety standards. But, devolving the service responsibility to individual schools is forcefully criticised at the nutritional department, by food providers, and at CAE's meetings, especially in relation to differences in city investments on built capital, absence of nutrition technicians and managerial capacities of some schools. As a result, outsourced schools reforms remain a challenge.

Other major challenges include the absence of food and nutrition literacy in the school curriculum. Likewise and in comparison to primary schools or full time schooling, there is a low rate of intake in secondary schools. Indeed, the intake rates of school students matriculated in full-time or primary education is nearly 100%. For students in secondary education this number sharply decreases to 35%. According to the school food archives, these figures remain constant since early 2000s. For school food managers and kitchen personnel, one of the reasons is the half-time study format in secondary education. Other motives include the existence of several snack shops in the nearby where teenagers buy processed foods.

Despite of the aforementioned frictions, power devolution in Porto Alegre meant that the broader constitutional right of access to food at schools could be designed according to local means and needs. The main features of school food decentralisation policies included the devolution of authority over school food planning, taken over administrative responsibility, and freedom to manage financial and human resources. Since the beginning, the city granted all 'inputs' needed to pursue the centrally reformed agenda. It provided sufficient financial resources, a central food hub, school food built infrastructure and tools, social nutrition leaders and support personnel. While these are all regarded as necessary for the constitution of the school food system, what social nutrition and buffet like experiences did was that the city began to connect food security and safety standards with values related to nourishment with dignity.

Since then, children are not mere programme beneficiaries or simple receptors and kitchen staff are not handlers. Good labour conditions⁸⁴, respect for children autonomy and supportive eating environments are part of efforts towards infusing additional values into the reform. Overtime, this many-sided web of meanings emerging during the decentralisation of PNAE can be summarised in the first generation of school food principles (see, Table 8).

⁸⁴ While the municipality initially contracted technicians, cooks, and assistants, since 2002 schools select cooks and kitchen assistants, often transferring the employer responsibilities towards private companies providing labour services.

Table 8 First generation school feeding principles and core meanings

Principles	Meaning
Dignified accessibility	The overall capacity or ability of the school network to provide universal access to onsite cooked nutritious and safe food, while guaranteeing eating autonomy in adequate refectories.
Educational Values	School food should contribute in the process of nutritional security reinforcing children learning ability. In addition, dinning and nutrition personnel are vigorously encouraged to take care of all pupils decently and equitably.
Appealing Nutritiousness	Menu design closely links federal nutritional guidelines, cultural acceptance, children approval of meals and the endorsement of school food personnel while caring about the use of fresh foods, combining colours, flavours, textures, variety and avoiding the repetition of the same recipe during the week.
Standardisation and reliability of food supplies	All schools should be provided with the same type and quality of foodstuff regardless its size and location.
Programme Funding	In addition to assume labour and infrastructure costs, the city complements federal resources to ensure that purchased meets the quality standards established at nutrition section. This financial backing oscillates 30%-40% above federal transfers.
Reward Criteria and tendering process	Lowest price is the unique criterion for the awarding of contracts.

Steering Practices and Normalising Change during PNAE Decentralisation – an Analysis

Before the decentralisation of PNAE, the general rule in the city of Porto Alegre was to offer packed snacks, centrally procured and distributed by the federal government and nationwide caterers (Spinelli and Canesqui, 2002, Maluf, 2009). In addition, the city was entirely disconnected from the power of the public plate. In this context, bulk convenient and processed foods are most likely to replace fresh preparations, hampering food and nutrition security gains (Poppendieck, 2010). Once the implementation of the programme responsibilities are devolved to the city, it radically changes how the school food service is organised and acquires meaning alongside the school food network and across different municipal bodies. Bearing the analytical framework in mind, let's take a closer look to these innovations.

The first radical innovation in the school food reform was for the city to take control over the school food programme. It patterned new-shared understandings, competences, and materiality, building the boundaries of the school food system. This is not to say that

establishing the object to be governed - and its elements - emerged from nowhere. In Brazil, this is also part of the return to democratic practices and the multi-scalar political struggles of civil society for food security rights resulting in changes in legal and regulatory frameworks (Sonnino et al., 2016). While changing the social expectations, governance architecture and definitions of the programme extend beyond the city scope, the point is to recognize that when reconnecting the city to school meals a particular public food provisioning trajectory surfaced. A trajectory firmly set through the repetition of pilot projects.

Often, the search for a change in the food system has committed leaders, whose agency and willingness to act differently - by inserting new notions of appropriateness - has the potential to guide collective efforts (Bagdonis et al., 2009). Porto Alegre is no and exemption. The design and execution of pilot projects are regarded as activities with profound desire to do things differently. But, the process of diagnosis-prognosis in pilot projects is essentially a collective exercise with diverse normative grounds and differences in affectivities. In special, it involves negotiation of interests and adaptation of procedures between procurement officers, education managers, school directors, and majors. It can be say, hence, that pilot projects transpire the institutional context in which they are immersed as much as the agencies of those involved. In doing so, the city practice uncovers elements enabling or inhibiting common grounds for action, an essential feature of introducing a new practice (Spurling and McMeekin, 2015). All this clearly appears in the narrative of school food manager of the time. In retelling the story of her involvement with the pilot project, she intensively talks:

“When we wanted to include nutrition technicians in our unit, I remember, we had countless meetings with many people here and there. Seeking financial support has been always the most exhausting job. But we had our hands on a very valid justification. And, constantly we remind to decision makers that school feeding had become constitutional law and that we must ensure. Of course, I’m talking about months convincing educational administrators, directors and mayors. Non to say when I went to the procurement director and ask for a supplier that could deliver school by school, week by week the foods we wanted to include in the menu” (School Food Manager 1)

Overtime, successful projects are extended to the municipal school network. In extending the boundaries to be governed, there are three main consequences of pilot projects. Firstly, it is through pilot projects that the city organizes public provisioning activities in an attainable manner. As Shove (2004 p, 84) contends: how the elements of practice *“run together also depends on the social organisation of the practices involved”*. Indeed, cycles of pilot projects revealed that the school food service is a complex operation, depending on the effective organisation and arrangement of key activities.

These activities often include designing menus under FNDE regulations, organising public bids before the school year begins, sorting reliable providers, on-time payments to suppliers, providing food to schools, receiving, storing, cooking, and offering food in giving times. In other situations, necessary sequencing has included, building and furnishing refectories, hiring cooks or dietitians, purchasing kitchen utensils and equipment, and records keeping from kitchens to nutritional unit. All of these performances are regarded as fundamental for school food actors to have interlocking effects alongside the chain of tasks during the devolution of powers. That means that the way that procurement activities are organised has immediate repercussions on the steering capacity of the city and can be planned at smaller scales.

Linking the daily operation of the service to the annual public procurement culture and contracting formalities, however, proved to be a challenge as a menu designer of the time reflected:

“It is very real and we have had it for more than 15 years. It works like this: we have a large, medium and small production lines. In these schools, technicians oversee food safety and meal quality. In addition, they plan the quantity of needed supplies for a period. Later the nutrition supervisor oversees several individual schools regarding record keeping, nutrition education, kitchen operation, and maintenance of equipment, labour conditions, and food flows. Finally, I follow up all the documents and verbal reports, and together we prioritize specific actions and procurement needs. With this information we design menus and formalize request to the financial secretariat regarding what food we need and more importantly when” (School food manager 2).

Equally important is to notice that learning by doing exercises also assist to create awareness of different sociotechnical systems claiming jurisdiction over those activities to be ordered (e.g., food safety certifications, sanitary regulations, provision of education services, procurement laws, etc). While school food managers in pilot projects lively experience such landscape of practices, in the literature, lack of awareness is conducive to path dependent trajectories for doing business as usual (Morgan and Sonnino, 2008).

Secondly, pilot projects are the spaces where the nutrition department begins to describe, prescribe and define proper performance or standards of acceptance. Conceptually, formulating acceptability criteria is an attribute of process of normalisation or efforts to routinize activities (Warde, 2013). In this stage the construction of rules and codes of conduct is interactive. Nutritionists, kitchen personnel and school administrators' perceptions mutually appraise and appropriate satisfactory standards. Among the most relevant, city has issued formal documents and codes of conduct in reference to: menu composition on yearly, weekly and daily basis, good practice manuals, description of responsibilities, quality monitoring guides, CAEs minute books, actions plans for suppliers wrongdoings, rules for receiving, storing, cleaning, preparing and serving foods.

At the time of rulemaking, the nutrition department also finds prospects of communications connections that might facilitate the formalisation of rules, as well as modes of linking those to competences and materials to emerging standards. One specific example, is to make public the daily menu composition through multiples sites and visualisation strategies: municipal website, nutrition weblog, school canteens, official memoranda, in CAEs minutes, on the board of the department of nutrition, in desks of nutrition technicians, etc. Another can be the detailed form to keep records of all food provision activities from receiving food at schools to food consumption.

The more reflexive construction and appraisal of rules, manuals and means of communications in pilot projects become more authoritative during their circulation to other schools. In the escalation of the reform, speed and formalisation of procedures are coordinated and established in the central unit of the nutrition department. This is to say that in broadening the boundaries, the nutrition department clearly identifies who is involved, what images of acceptance are included, who gets to do what and the epistemic justifications for these. Determining the course of activity in such way indicates the prescriptive nature of governance (Mount, 2012)

It has been also argued that a self-referential, close and uncontested image of “improvement” might erode the potential of food systems to adequately respond to sustainability or food security challenges (Goodman et al., 2011). However, our historical analysis calls the attention that in pilot projects these norms – and the welfare principles attached- are constructed in a more reflexive manner. In turn, the governing rules have denser degree of consistency, which is to say that they are largely view as coherent in new schools, generating relatively fewer conflicting instructions to new practitioners. This is reflected in the persistence of food and nutrition security innovations over time.

Additionally, from the practice-based approach sketched, the architecture of competences and the infrastructure of materials are as relevant as meanings for the direction of a practice. As Shove (2004 p, 188) compellingly argued: *‘those who emphasize the social and symbolic knitting together of society only sometimes describe mechanisms of change, and when they do they rarely take account of the material and infrastructural anchoring of habit and practice or of the temporal integration of daily life’*

In this regard, the third consequence of pilot projects in extending the boundaries to be governed is the identification of supportive competences and materials. In the literature competences are pivotal in the making of more sustainable and equitable public food provision programmes (Morgan, 2014). In addition to actively participating in linking value commitments to resources, it is argued that modes of steering sustainable transitions comprehend the set of skills structuring decision-making processes (DuPuis and Gillon, 2009).

Before decentralisation and the institution of school food as social right, competences in large scale public catering were overly dependent on the knowledge and skills of large suppliers (Triches, 2015). By implication, there was a lack of school food management and mobilisation of institutional resources skills. Moreover, the constitution of the nutritional department loaded the reform with formal nutritional knowledge. But, rendering federal school food regulations and food utilisation fundamentals in menus is one thing. Other is to infusing actions with firm food access and social nutrition goals. Then, managers had to implement centrally designed menus and recipes quite closely with technicians in nutrition and cooks. In his way, pilot projects become fundamental to construct the city's ability to access the required skills and knowledge to thrive towards the reform.

The particular division of labour and responsibilities is an output of pilot projects and a reflection of the competences' architecture. The essential steering competences are companionship and share responsibility, developed in learning based environments. Their expression can be found in activities such participatory menu design, reports to CAEs, supervisory roundtables and pair to pair menu preparations. From nutrition director to dinning ladies, companionship - the felt perception that support and information are at close distance during the implementation of pilot projects - play an important role in bringing the school food principles to the table.

Sharing the responsibility assists to deal with the uncertain outcomes of new and old doings while keeping in mind the particularities of feeding vulnerable people. In doing so, the call to responsibility becomes an essential feature to embody confidence when changes have been shallowly normalised. Equally relevant is that companionship conceals the interaction between the external demand of knowledge based life-science based nutritional' knowledge and 'social nutrition' skills. The former can be broadly understood as the ability to explain the relationship between the food intrinsic chemical composition and the biological nutrient requirements; the later as nutrition embedded in firm social or food access goals (Lang et al., 2009p, 117-119).

In Porto Alegre, the competence architecture is about both. In one hand the external demand of competences is required to design menus and elaborate manuals of good practices within a clinic approach to nutrition. In Brazil, the paramount role of nutritionists improving the nutritional profile and content of foods in school meals in Brazil is well known (Chaves et al., 2013). This is to embed formal nutritional knowledge in competences like calculating sufficient energy and nutrient intake for the periods the pupils school journeys, preparation of datasheets for all school food menus, taking care of food preparation practices, caring of special dietary needs, monitoring the diversity of menus and food safety practices, conducting nutritional assessments, safeguarding the nutritional status of individuals. On the other hand, menu designers need to link FNDE nutritional recommendations to other school food principles or the internal need of competences. For

instance, they connect food characteristics to the wider social and educational role of the service, emphasising the importance of skilled kitchen staff in reassuring access to food regardless age, gender, ethnicity, economic condition or neighbourhood.

In doing so, it can be argued that one of the contributions of pilot projects to food security is to avoid contested knowledge claims, defining divergent quality conventions, modes of doing, and food system trajectories (Maye and Kirwan, 2013) Bringing persistence to the reform, then, is to apprehend diversity or reject coherence as inherent to scaling the reform efforts. Moreover, knowledge in utilisation of food, to use food security jargon, could not alone face the multiple challenges of inserting the principles to the municipal school network. As Goodman et al. (2011p, 168) argues *"boundary definitions require processes and decision making that extend beyond conventional scientific sources of knowledge"*.

Thus, in addition to acquire skills in: public contract management, guidance and supervision of food procurement, companionship of menu development, and shared responsibility; one key attribute of experience-based knowledge is the realisation that public 'nurturing' is situated between the school realities and the municipal readiness to advance any reform. The expressions of this kind of knowledge are wide, but there are three worth to mention, especially in relation to escalation of the reform: the contextualised notion of consumption of food across schools, relations between procurement laws and supplier's routines, and exposure of benefits of pilot projects to the multi-layered municipal organisation to legitimize scaling out efforts.

School food reformers while strongly supportive of the idea of nutritional companionship and shared responsibility as a means to maintain or enhance meal quality, they are also aware that in schools lacked of basic infrastructure led to disengagements from aimed changes. Some kitchen staff also can feel ignored from decisions about the issue, notably in relation to re-skilling processes, labour-intensive activities and sanctions due to hygienic requirements.

In many cases objects and infrastructures determine the boundaries of practice (Shove et al., 2012). In the public procurement literature, this is well documented. It is argued that missing tools and cooking equipment at the school level affect the roll-out of the programme (Kloppenburger et al., 2008, Espejo et al., 2009). In addition, offering cooked meals make particular demands of school buildings and infrastructure (Uduku, 2011). Through pilot projects, the city identifies and maps the physical the set of artefacts that can be used to ensure the food flows from public procurement to consumption and relational use of them to make conducive every day preparations. In turn, this infrastructure is requested in advance to educational managers when expanding the reform to new schools.

Although the supportive infrastructure rely upon different socio-technical regimes and conventions, by actively participating in their selection, purchasing, equal distribution and defining usability standards (good practices manuals), the city infuses the material elements of practice (as entities) with the principles of school feeding. In doing so, the power of public food provisioning transforms the demand of access to resources, a key subject in food security debates (WFP, 2013) into reality. Additionally, in building new infrastructures, the city asserts the right to school food in practices as performances. Hence, the material elements of the reform aim to lock-in the demand for nutritious and safe food to the reform principles, becoming an integral part of it rather than taken for granted. Concomitantly, the provision of material elements is grounded upon city's own resources. This is to say that public investments in infrastructures allow the expression of steering efforts of PNAE when normalising the process of change.

In shorthand, during the process of decentralisation the city pronouncedly focuses on the access and utilisation side of the food security equation. Through the analysis of pilot projects, it is shown how the pressures and concerns caused by the devolution of powers and new resources are managed in the city of Porto Alegre. In this phase, the city place and empower the nutrition department with the responsibility of filling the gap left by the federal government when it withdrew from it. As the case shows, such sites are power centres, in the sense that they are able to define scale (boundaries) of many other sites of practice via actions performed within these (Schatzki, 2015). In this particular task, pilot projects played a fundamental role in identifying the external programme demands and the internal needs of practice elements. In doing so, the school food system boundaries are established and the object to be governed is publicly recognised by the means of engendering municipal school food values, competences and infrastructure investments.

In turn, this signals a particular trajectory of practicing decentralisation with welfare and nutrition goals. This is more evident when one compares the city with other cases within the same state. What the research clearly shows is that school food rights, equal access to nutritious food and citizenry can be advanced when there is a dedicated group of persons implementing the programme. One of the consequences of this governance arrangement is that the city stopped to be dependent on previous procurement procedures and accessibility routines, which previously seemed to be cyclically repeating without questioning the motives that led to decentralisation of the program (see, Figure 12). This has largely contributed to synchronize the organisation of public bids with the service at school level.

Moreover, the continued development of competences regarding the whereabouts of school food principles and good school food practices allowed the development of standards and normalisation of new ways of providing the school food service. An activity that has not stopped to occurred since earlier times of decentralisation until the conclusion

of this research. Finally, the even distribution of schools’ infrastructure and the continues investments in the development of the city’s own school food distribution structure (deposit, trucks, cold rooms, personnel etc.) ensures that the right to school meals can be granted at city level alongside the deprived neighbourhoods.

In addition to indicate the overall process of the governance of practices during the decentralisation of PNAE, the figure twelve also underlines some issues of conceptual value. In first place, the connections between the governance node and the organisation and coordination of practices are multiple. By using a spiral representation, I aim to show that in implementing the reform, the meaning making processes, dissemination of them and the materialisation of a school food strategy are intrinsically connected with federal and municipal governing values. This basic observation, nevertheless, acquires additional value if one follows the interconnected descending or ascending paths.

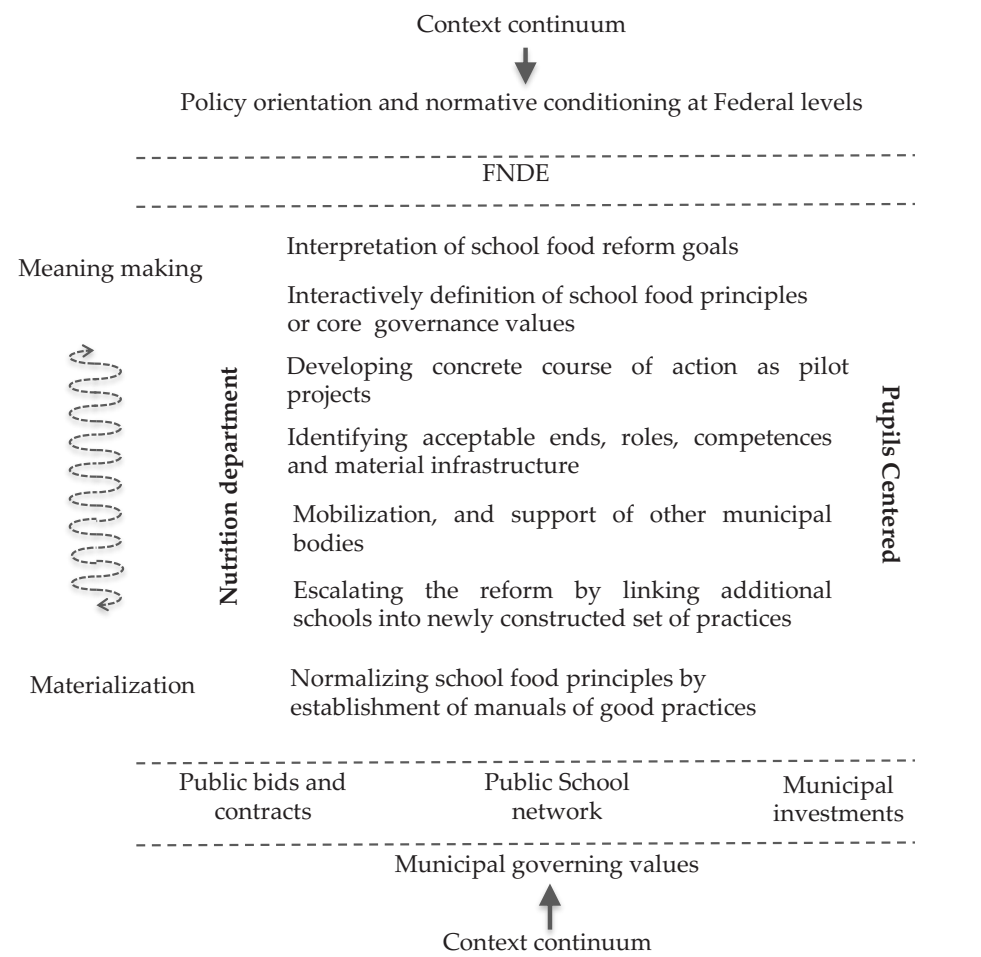


Figure 12 The governance of practices arrangement during decentralisation

As the interactive formation of school food principles stretches down, the reflexive governance phase shifts from unfinished task to complete phase. At initial stages of the reform municipal stakeholder interactions are denser and generative. Yet, once the elements of practice (and their arrangements) are identified and selected during the operation and observation of pilot projects, the reflexive dedication and mobilisation shrinks. School food service performances, then, become normalised practices through the explicit formalisation of manuals and codifications of determined ways to proceed (e.g., documentation of school food policies, recipes, food safety manuals, buffet adequacy standards, instructions for school principals etc.). In turned, they become source of correctness among the service providers. As a result, the school food system is pre-organised and subject to the jurisdiction of the central office in the nutrition department.

While might be tempting to conclude that that in the normalisation phase of the reform a practice becomes routinised – then with no need of being continuously steered as coordination relays on prescription or control-, what the study shows is that commitments and engagements with the operation of the service (or to what is considered acceptable or normal) continually face novel experiences and challenges.

Then and by making lasting commitments to school food principles, they might encounter alternative ways of organising practices or introducing new components; making the governance of established practices a dynamic process, fill up with multiple small-scale adaptations and learning experiences. In turn, these adaptations can be up-scaled and travel back in the spiral. It can be argued, then that the organisation of the school food system can be reshaped from the questioning normalised procedures and the ability of the governance node to fit emerging practices at lower levels (kitchens, buffets, distribution, etc.). This is done without the vanishing of the governance node that, at least theoretically, would not need to be governed as the actions of practitioners rely on routines.

Consequently, it is not only the context continuums (understood as those conditioning acceptable policy ends), which shapes governance actions and organize practices. On the contrary and overall, it is the complementarity between the trust on local resourcefulness and the fine-tuning of practices (knowing within the practice) what give direction to the reform in the governance of the everyday school food system. One clear example of this situation is the participatory menu design in which actors, instead of looking at what went wrong in the previous year, are encouraged to elaborate what are the conditions enabling a well-functioning school service when an alternative path is found. In this process, dietitians, technicians, cooks and kitchen personnel recognize the fitness of designed menus while examining the settings of a fine-tuned practice.

As a result, the governance question shifts from recognising deficiencies and trouble-shooting problems towards identifying what are the conditions that can generate higher

levels of satisfaction. It seems then that once the core principles, competences and materialities are disseminated, the school food system in Porto Alegre tend to adapt appropriately without the need of an external design or reflexive processes within the municipality bodies. This is because adaptations are rooted on the experiences at the local level.

Together, the existence of formalisation procedures indicating the appropriateness of provision practices and the room for collective improvement of individual performances suggest that the school food service in the city of Porto Alegre can be treated as integrative practice⁸⁵. In this regard (Warde, 2013) suggests that coordinating compound practices might be related to effectiveness and configuration of governance bodies. And, it is precisely here where a second conceptual observation emerges. While the configuration of the nutrition department has been widely described and discussed, the research shows that effectiveness of the department to effectively decentralised and guaranteeing school food rights might be related to power, know-how issues and the efforts of school food champions.

In relation to power, it is noteworthy to observe that in despite of changes of majors (and political interests) since the late eighties all municipal governments have delegated to the nutrition department the administration of the programme. Consequently, decision-making (and the consequent set of responsibilities) has a visible agency in charge of harmonising federal and municipal requirements vis-à-vis the needs of schoolchildren, schools and providers. In doing so, the organisation of provision practices at the access side, is less about contestation between municipal bodies over the right to define the standards and procedures and more about legitimising department actions in relation to the service quality. The three national prizes of school meals quality are just examples of the setting of this jurisdiction across different municipal governments and bodies.

In relation to know how to organize or coordinate the school food system the effectiveness of the nutrition department can be approached from its ability to intersect different practices in a coherent whole. There are various mechanisms bridging practices in the city of Porto Alegre. Some involve the mobilisation of resources to upscale pilot projects while engaging multiple actors and sectors of the city government and school network. Others include the internal formation of competences and infrastructural investments. These commonly recognised 'bridges' (see, e.g., Shove et al., 2012, Schatzki, 2015) are accompanied by leadership of passionate individuals looking for societal wellbeing and work on things they really care about. Indeed, during the decentralisation of the programme the efforts of different school food directors and dieticians became a powerful

⁸⁵ According to (Warde 2013, p 26), performances of integrative practices "requires appropriate social supports and sustenance, social coordination and organisation" – that is governance.

tool to generate human energy able to engage other actors in the whereabouts of unknown paths. As an external observer of the programme quoted:

“Well, it has been the work of two or three dedicated dieticians who have bravely put together the complicated federal design for school meals and the needs to show results in the side of the municipal hall. Without them, I think Porto Alegre would have outsourced the provision of the service long ago. I remember, Porto Alegre had not warm meals before the decentralisation of the programme, so it was very hard to mobilize people and resources to put in place dinning ladies and refectories in more than 100 schools. Nevertheless, majors trusted on the vision of the coordinator of the nutrition department. If I am not wrong, she was on charge of the reform for more than 12 years. Of course, having warm meals and unlimited access to school meals was a source for the majors to show results in popular sectors. Moreover and despite the city’s limited budget, the municipal counsel has continuously assigned additional budget for the school food programme”.

(External observer 2)

In short, the city’s trust, the decision making power to set the direction of the reform and the personal engagements with the transformation of the school food programme meant with time that the group of people in charge of organising the daily operation of the service developed a sense of purpose.

The third and final conceptual issue emerging from the figure 12 is related with the ‘Teleoaffective’ structure guiding actions at the governance node. Personnel interviewed the nutrition department with directors, dieticians or lay people coincided that a powerful source of personal engagement with the operation of the service is caring about children. If the school food principles guide practical governance processes when forming a compound practice, the sense of care (pupils centered) can be seen as the underlining value without which the provision of the service would focused in other goals (e.g., cost reduction). This has generated overtime that all actors of the school food system are doing things together, albeit in many occasion actions are individually performed. So, caring for children and about the adequacy of food constitute key components connecting the ‘end-project-task’ amalgam.

There are many ways of drawing out how caring works in practice. One is the work of dieticians when by bringing to attention the purpose of caring for the school children they are able to reach agreement about the meaning of dignified food access across newly hired personnel. Another is that by bringing the caring needs of children lay personnel can establish generative conversations with school directors, technicians in nutrition, dieticians or higher ranked officials. But, perhaps the most tangible is the level of energy emanating from the few people in charge of organising the school food system. Indeed and despite of shortages in nutritionist and kitchen personnel according to current regulation, the city’s continually works to offer a good quality service.

In despite of the positive outcomes of decentralisation and establishments of food rights, the participants of the governance node were not able to influence the municipal values regarding the recommendation of FNDE of buying products from local family farmers or putting on the top of the city's agenda the need of tackling overweight and obesity. Indeed, in 2005 a pilot project designed with the goal to buy fruits and vegetables from nearby producers. Producers delivered vegetables three times a week and school children visited the farms. Children were trained in agriculture and environment in the classroom. Family farmers went to school to teach cooks how to make salads with seasoning. In addition, the schools offered cooking classes to students and mothers. The idea was to expand the project to other twenty-three schools; nevertheless, with the change of municipal government, the project was rejected at the financial secretariat. According to the words of the procurement director of the time, the project was not expanded due to bureaucratic barriers. On the one hand, transferring financial resources to each school of the district⁸⁶ to be able to buy directly fresh foods proved to be a challenge for schools:

“School directors became concerned about the benefits of the pilot project since new public procurement activities turned to add an extra layer of obligations which they were not in capacity to execute either for lack of experience or just did not have time or dedicated personnel for procuring food from local family farmers”.

On the other hand:

“producers showed enthusiasm and eagerness to participate at the beginning of the pilot project, and in fact they supply few times some schools. Nevertheless, after few deliveries, they say no more, accusing problems of: delayed payments, lack of legal documentation to be state providers, and transportation costs”.

As a consequence, after few months, the pilot project was cancelled and only was retaken after the enactment of the 11.947 law in 2009. In the following paragraphs, this process is described and discussed.

Linking Family Farmers to School Meals and Deepening Civil Society Participation

While the first stage focused on the school children or the consumption side, the second phase of the school food reform in Porto Alegre deepens meals quality and develops relations with local and regional family farmers. Two external factors influenced this new reform. As a consequence of the new school food law, since 2010 the city began to substitute

⁸⁶ Although, the general procurement law aims that all public bids are open to all possible participants there are also exceptions. This is the case of direct purchases for lower values than 8.000 Reais (Art I and II law 8.666)

traditional food traders with family farmers cooperatives. Due to legal controversies, this has been a turbulent and noisy process. In this regard, the city's attorney office established that Porto Alegre could purchase a maximum of 30% to local producers when their prices exceed their similar counterpart in the electronic bid⁸⁷. The second external factor is a shift in students' nutritional status. Indeed, while undernutrition affects only 1%, obesity and overweight has steadily increased since 2000s. Internal assessments reveal that in 2012 13% or about 7000 school children are clinically obese and 30% are overweight.

Together the new school feeding law and the prevalence of obesity created new challenges for school food managers. To tackle obesity and overweight, the nutrition department began to regularly conduct nutritional assessments over the school population. It uses in-situ measurements and keeps records of the body mass index. Once the results are available, the dietician in-charge of the district organizes nutritional education talks with kitchen personnel, teachers and in some cases with parents. Individual meetings with parents are arranged when there are acute cases of obesity. Those are further referred to the municipality health system, however; only few city health units have systematically adhered or responded to this call. Public health officers argue that they do not have the capacity to attend large numbers of children with obesity. Such actions aim to lift awareness about the negative consequences of malconsumption alongside the school food community. School food managers also conduct surveys among school parents to understand students dining habits at home. With these results, new lunch times, menus or frequency of meals are being introduced with the goal that they do not repeat main meals in the same day. The city has also established stricter internal rules for the use of sugars, oils, and salts on breakfast and snacks in the menu composition. There has been a radical change in the composition of snacks where fresh fruits are becoming the only available offer.

It is from this point forward that the department of nutrition integrates the first generation of school food principles with the substitution of process foods⁸⁸. Indeed, since 2002-2004 there is a tendency to purchase less processed products. For this to work, the city of Porto Alegre bundles food items in five groups: fruits and vegetables, meat cuts, non-perishable items, bread, and dairy products. The quantity and the nutritional/safety standards are determined by the nutrition department. After this the city opens an electronic reverse auction, following the principles of 8666/93, but emphasising that the only award criterion is the lowest price. Without prior bidders' qualification of merits, on the day of the online

⁸⁷ Following the federal law an exception is made to organic or agro-ecological products. In this case, the city pays a premium of 30% to family farmers supply.

⁸⁸ While people define 'processed' foods in different ways. Dietitians at the nutrition department understand that in general, the more the food is modified from what is originally grown or raised (natural), number of ingredients (often five or more) and the presence of list of ingredients with unfamiliar and unused names in culinary preparations the more processed the food it is.

auctions the city opens electronic platforms for suppliers to compete against each other by submitting consecutive lower priced bids for each group.

Contracts are granted to those firms able to supply at the lowest price or major discount only insofar winners show legal and quality compliance. Within this procurement model the city purchases in the same bid food for hospitals, public restaurants, anti-hunger campaigns, prisons and the like. This aims to increase the city bargaining power over suppliers. Finally, the contract structure allows the nutrition department to alter quantities upon demand. This means that while the price is fixed, the quantities can change over time whether the demand of a particular product increases or decreases.

For years, this system has brought to the city a financial positive sum game. In average, selected suppliers offers between 15% to 8 % discount prices than those reported at the wholesale market. Among fiscal constraints such savings represent an important effort to keep the economic sustainability of the programme on sight. On the down side, the institutional market is an oligopoly. For instance, over the last two decades only one company supplies fruits, vegetables, and dairy products. In the case of non-perishable foods, four companies have been awarded alternatively with contracts during the same period. Contract winners report that their ability to maintain low price is based on participating in multiple electronic bids in different cities and purchasing food from industrialised agriculture in large wholesale markets alongside the country. In addition to the increase of the distance that food travels, the secrecy of the electronic process makes easy for procurement agents to ignore rampant discrimination towards producers inherent to middle-men structures. In short, the electronic reverse auction might reduce costs for the city, but effectively masks social and environmental values of food chains.

Only when regional family farm products were taken into consideration, high dependency on large contractors and industrial farming was challenged. Indeed, family farmers coops – most of them belonging to the city region – supply large part of leafy vegetables, fish, and the entire portfolio of organic products including orange juice and rice. These fresh and minimally process foods complements reduction obesity strategies such on-site cooking, minimising amounts of oils, fats, sugar and excluding industrial formulations and sugary enriched drink products. In addition, the inclusion of organics becomes more meaningful if one considers that more than 70% of agricultural products in Brazil contain unacceptable traces of agro-chemicals.

To do so, the city conducts a differentiated bidding process for family farmers. In Porto Alegre only regional family farmers associations and cooperatives are called to supply up to 30% of the school food. Once per year the financial office opens a public call with the aim to scan potential suppliers. As for large food traders, the nutrition department set in advance quantities and qualities of foodstuff to be included. Municipal website, state

journal, agriculture extension services agencies, and e-mail are the means the city employs to ensure the call reaches a wide number of family farmers. Those interested previously present documents to be assessed in relation to legal-fiscal constituency, provenance, family farmer numbers, agro-ecological certificates, food safety certifications and compliance of their belonging to this social group⁸⁹.

Despite the fact that federal regulations determine the reward mechanisms⁹⁰ for family farmer tendering processes, between 2010 and 2014 the city followed similar award framework established in the general procurement law. During this period, the municipality opened monthly processes in the so-called “face-to-face auction”. This required family farmers to attend the bid, led by a city auctioneer. In addition to hand once more all the legal documents, family farmers suggest a price in their offers. If the price is lower than the one established by the municipality, generally based on the reference price of the electronic bid and the price list of the state whole-sale market (CEASA-RS), the contract is awarded. On the contrary, if the price is higher, there is a negotiation to establishing whether or not the municipality is willing to accept the new price. In case of on-farm process foods the reference price is set according to similar product found in the city public market.

For organics, the city following federal regulation sets a premium of 30% over their conventional counterpart. As for large traders, family farmers coops should deliver food to the city under the following conditions: in the case of non-perishable items to the city’s central deposit; for fruits, meats, vegetables and other perishable items, suppliers are requested to distribute them alongside the school network. Finally, the city establishes a maximum of 15 days to effectively make payments to family farmers.

Beyond the legal organisation of the public bid, the key enabler for family farming participation is small-scale planning and collaboration. Before the public tender occurs, there are multiple meetings between cooperatives and the city. Most often, cooperatives managers channel the relation farmers-nutritionist. The municipality makes explicit what is behind the configuration of a menu, specifically it meticulously describes the tendering

⁸⁹ Cooperatives aiming to take part in the tendering process must prove that their members are in possession of an official statement of belonging to the National Program for Family Farming-PRONAF. PRONAF establishes four criteria for recognising family farmers: the farm should mainly rely on family labor; a minimum percentage of income should be derived from farming activities; the farmer or family members should manage the farm; and the working land should not exceed four “fiscal units”. In the city region of Porto Alegre, where this research was conducted, a fiscal unit is equivalent to 12 ha.

⁹⁰ The resolution numbers 26 of 2013 and 04 of 2015 of the National Fund for the Development of Education (FNDE) determines that municipalities should award contracts in relation to: family farmers located in the municipality, the region, the State and the country – in this order of priority. Within this selection cities should prefer food providers from land reform settlements, indigenous communities and quilombolas. Furthermore, the resolution explicitly encourages municipalities to choose collective forms of provision and agro-ecological foods over individual and conventional suppliers.

process, expected food quality, food safety specifications, delivery conditions, supplier reliability, and school meal programme goals in relation to the importance of family farming foods to enhance service quality. In turn, cooperative managers bring to the conversation subjects such family farmers social identity; cooperative organisational model and values, supply capacity (quantity, qualities, number of family farmers, and type of food) and foreseen distribution challenges.

Organisationally, requirements for fresh foods under family farming bidding is set on monthly basis, although, it can be adjusted every week. In case, family farmers cooperatives cannot supply a product or replace it with one of similar nutritional properties, dieticians solicit large food trader to supply schools. In this way, space of manoeuvre for intentional experimentation for local foods is opened while securing food access to schoolchildren on daily basis.

As a result of purchasing food from family farmers from 2010 to 2014 the city has transferred R\$ 4,430,242.95 to the regional rural economy. Indeed, while in 2010 and 2011 the percentage of federal funds allocated to family farmers was 1,9% and 5.56% respectively, in 2012 it reached to 25,97% and in 2013 and 2014 increased to 31.53% and 35.56% respectively. This indicates that in Porto Alegre the inclusion of family farmers is part of a stepwise view of school food reform. At the production side, city investments in the country side has increased farmers' economic gains – despite the fact that only on-farm processing and agro-ecological products receive a premium price-. In large this is due to the fact that cooperatives are able to by-pass the wholesale market intermediaries, sales of large volumes, and gain on tax reduction for selling goods to the city. Furthermore, they pay to family farmers goods and services before the municipality settle bids upon food have been effectively received in schools.

At farm level, family farmers interviewed report that school market provided incentives and the working capital for: diversify production, shift to agro-ecology, broaden number of shareowners, infrastructure and equipment investments, intense women participation in farm management, creation of on-farm processing units, generation of jobs for young farmers, or simply de-intensify their reliance on external inputs or excessive labour. All these benefits finely synthesised by a cooperative manager: *"...we do not change the lifestyle of family farmers; only improve their living"* (Coop manager 3). All of these supported by deliberative process in which qualities, quantities and kind of product are negotiated between the city and cooperative managers.

Principles of transparency and accountability are also pushed forward in a novel manner in the bid process for family farmers. Under the electronic bid framework, transparency is heavily understood as **cost reduction** to being reproduced by the compulsory and anonymous competitive tendering process. This necessarily implies that legal obligations

are measured against those records proving value for money. Following the price tag, however, evaluates irregularities of a distant past and reduces the relation supply demand to the financial realm. A way of doing widely criticised in CAE meetings until the extent to which members of the council consider that accountancy formats and legal processes do not contribute much to improve performance of the school food system: *“School meals are more than numbers, but in many occasions many procurement officers look in the bid banana or any product and they see just numbers”* (School Food Manager I).

In the bid process for family farmers, on the other hand, the organising evaluative principle goes beyond price tags. First, the city is open to sustaining dialogues with *all* potential family farmers suppliers. This implies that there is not directed contract negotiation. On the contrary, in pre-meetings with family farmers the nutrition department markedly clarifies the city reward criteria system, distribution demands, minimum quality standards and discusses alternatives to match supply and demand. When a given coop shows intention to participate, the city includes its food items offers into the public call with no exception. Thus, the option to participate in the public call is disclosed to all family farmers coops. This is to say that the city manages pre-meetings in a manner that is *not exclusive*.

Second, city-family farmers dialogues and outputs are open to CAEs revision and participation. In many occasions, CAEs members participate in city-coops dialogues, evaluate the outputs of such interfaces, and generate feedback reports to effectively manage the reform. Furthermore, CAE oversees that supplied food items, cooperative’s invoice and municipality payments are not only in accordance to the general procurement law, but also, to the particular school food regulation. Face-to-face interaction, hence, is not conducted in secrecy. On the contrary, it is one *accountable* process opened to civil society scrutiny.

Third, the division of roles between the nutrition and financial officers have helped to safeguard the process from opportunistic behaviour and dishonesty. While potential family farmers food items are negotiated and evaluate at the nutrition department, face-to-face auction and documentary revision are independently carried out in financial secretariat. This division of roles and responsibility has generated confidence in city general attorney office, especially in relation to avoid favouritism among participant family farmers.

In this regard, CAE is becoming a platform to legitimating school food innovations across the school food system. In doing so, the council has broadened its traditional supervisory tasks of sanctioning accountancy, hygiene, and acceptability. In this shift the school food manager resolution to share responsibility and knowledge of the school food service quality provide civil society with the power to intervene. The composition and workings of CAE facilitates this task. Every month, one nutritionist, two representatives of schoolteachers, two emissaries of student’s parents, and two members of organised civil

society meet and discusses the challenges of the programme. . Opposite to what happens during the programme decentralisation, in the construction of markets for family farmers CAE members participate in the discussions and negotiations concerning the supply of food. Here, the majority of CAE members' reports that after effort direct to link family farmers to healthier menus their voices are being heard and integrated into the council's discussions. Moreover, in 2015 for first time a local family farmer joined the council. School food managers also have begun to back this empowerment, noticing that CAE is pivotal in the search autonomy in school food reform: *"Because CAE is the authorize body to evaluate school meal programme, a positive valuation from the council grow into support of our approach to manage the programme"* (School food manager I).

At city level, the particular public procurement approach and audit processes are only partly accountable for enabling the formation of links family farmers school meals. Other key mechanisms include: 1) strategically linking and delinking conventional suppliers according to small holders food availability, in this case the contract structure of conventional suppliers is crucial; 2) the heterogeneity in products, sizes, colours, and delivery practices of family farmers cooperatives can enter into the institutional market because by law in In Brazil, the nutritionists are entitled to endorse quality standards of the food items; 3) the city ability to swiftly change and substitute the menu composition empowers family farmers to communicate a no go food' circumstance without being frightened from market exclusion 4) the veracity of such supply shortages claims can be easily established because the cooperatives are located in the city region, hence, the likelihood to sanction family farmers in this regard is low.

The inclusion of local products has been made through pilot projects and co-adaptation. For example, a local group of artisanal fishermen or pork producers contacts the city with the idea of supplying fish to schools. Although the groups could supply the entire school network, initially family farmers and dieticians decided to focus on just a few schools. Only after reliability of the supplier and acceptance of the product was acknowledged and entrusted, locally produced fish and pork began to be provided to all schools. When one cooperative cannot supply the entire school network or a new supplier expresses the intention to participate in the tendering process, the city entitles family farmers to distribute available supply in only few schools. By means of this adaptation, which is preceded by intense debates between dieticians and cooperative managers, the city facilitates the entrance and permanence of family farmers in the school food market.

The inclusion of products from the agrarian reform producers also involves adapting by learning. In general, procurement officers pay bills upon the reception of cooperative invoices; only insofar they are accompanied by individual family farmers bills of sale to the coop. For some cooperatives, such a requirement does not represent a challenge, especially for those whose members join forces to process and market their products. However, in the

case where the land is co-owned and cooperatively worked -like in many of the landless movement settlements- they can present only one singular note. Thus, procurement officers have to adapt their payment cultures by recognising 'others' farming styles and business models. At the distribution side, family farmers cooperatives make efforts to associatively distribute food along municipal schools. In addition, they cover in the same route various school food programmes in nearby cities. In such a way, they decrease transportation burdens and share the benefits of reduced cost, without financially squeezing primary producers.

Finally, since 2015, the municipality has replaced the cost negotiation mechanism by finally abiding to the reward criteria established in federal school food law. Then, family farmers do not propose anymore a price in the offers and contracts are awarded the city explicitly places in the public call the prices it will pay for food items, and awarding contracts upon geographical and social provenance of food. In some occasions, the listed price in the tender may not be sufficient to cover production and distribution costs, as reported by cooperative managers. However, letting the family farmers know the price in advance is overall regarded as positive, until the extent cooperatives can better assess the attractiveness of the public tender.

Large food traders and family farming based provision systems are by no means a harmonious relationship. There are multiple sources of conflicts. At the procurement side, for instance, the maximum 30% limit to family farmer purchases and the tendency of auctioneers to impose wholesale market prices reduces the amounts of fairly traded food and excludes embryonic food initiatives. As one representative of a cooperative explained:

"We could be able to offer more food and benefit our cooperative members and the region.

We proved we are a reliable supplier, our quality is good, and the few complaints were resolved. The law defines the mechanism for fixing prices, but the authorities do not follow this rule. Look, in many occasions the price established is out-dated because the auctioneer discounts 15% of the wholesale market price list, based on the percentage lowered in the electronic bid. We can supply food because we redistribute the gains of other products with those listed with lower prices. But, if you come here like an individual supplier, people do not progress" (Cooperative Manager 3)

Another farmer also broadened this and explained that:

"At the beginning we got used to a lots of paper work, later we learnt to plan and cooperate to distribute our food together with other cooperatives, but delayed payments of more than three months are very difficult to overcome. We can continue planting and supplying food for the next semester because of our solidarity principles, but if the

municipality keeps retaining payments we can be excluded from the institutional market”
(Family farmer 9)

Under these circumstances only those able to match large food trader prices can participate, indicating the rottenness of cost-reduction strategies in the city. In addition, the tight budget for school meals make difficult to balance the new school food law goals and local family farmers participation. In one hand, school food managers report that including some of the family farmers products is more costly, especially in relation to fish, organics and wholegrain foods. On the other hand, at the consumption side, lower inclusion of these products, negatively affects the right to adequate food and nutrition literacy activities. However, there are no federal or city based compromises to increase extra allocation of funds or to find alternatives for giving access to healthier options through other city food strategies. In addition, conventional suppliers remain important actors at the supply side as they continue to provide the majority of foodstuff.

There are also conflicts about seasonality and environmental costs. For example, the conventional suppliers specialize in institutional and other large outlets in many cities and different states. By working through economies of scale and control, they can reduce the price, win the bid and fulfil the contract. But in many occasions schools are provided with vegetables and fruits coming from other states and industrial farming:

“We have the issue of food culture, we have in the city a diet based on products that family farmers do no harvest all school year around... [That’s one thing that bothers me since we started to purchase family farm foods] ...the tomato and onion, which are the weekly basis of the meals we offer, are produced and preserved in very controlled environments. This is something that has to be reviewed in our department. We need to create alternatives to tomato sauce.” (Nutritionist 2)

Another large disagreement between family farmers and conventional procurement emerges from the municipal division of the procurement responsibilities. While the nutrition department designs menus and regulates the quality of products in the public bid, the municipal procurement body is in charge of establishing the reward criteria. This is to say that in opposition to what happened during the decentralisation of the programme, there is not municipal body claiming jurisdiction over the creation of markets for family farmers. In consequence, the mobilisation of resources and definition of roles and responsibilities remain vague and actors find difficult to make validity claims in relation to the benefits of the reform. At the core of this dispute is the conception of what an adequate school menu entails. For school food managers the inclusion of family farmers is a core feature of service quality. In contrast, municipal budget administrators advance, ‘fiscal constraints’ or ‘competition determinants’ to limit their participation on the school food market:

“The dieticians propose what to purchase, here we research prices and I have to approve any additional cost before the bid. And, look at that, the municipal attorney’s office still can postpone the bid if I decide to buy at higher prices than those in the electronic bid. In this case the municipal attorney stands and agrees that only 30% of federal resources can be apportioned to higher prices. So there is no questions of buying at any price, then I say, I cannot buy from the cooperatives and I stop future the process until they lower their offers” (General procurement manager 1)

An analysis of the dynamics of organising localised forms of family farmers led provision systems

Before discussing intervention in practices, one relevant connotation is to be made. The more sustainable alternative to the amalgam large-scale suppliers, i.e., family farming is crafted outside the scope of school food policy. In fact, family farmers production of staples and fruits largely exceeds the regional demand in public schools (Rocha et al., 2012, Fogaça et al., 2016). Since the nineties, family farmers policy salience in Brazil plays a crucial role for the expansion of their regional food capacity and development of commercial skills (Schneider et al., 2010, Van der Ploeg et al., 2012). In addition, the country has a dedicated institutional architecture and legal framework supporting family farmers, yielding substantial food security gains (FAO, 2014a). Specifically, the development of programmes of access to land, credit and the national system for food security set the benchmark for PNAE to establish protected markets for family farmers staples (IPC-IG, 2013, Schmitt et al., 2014). One corollary effect of this observation is that in Brazil there are widespread efforts to value, formalize and codify family farming and institutional markets, providing evidence of the existence of the substitute practice (Warde, 2013)

Equally important is to notice that all smallholder family farmers cooperatives - the substitute provision bundle- emerged before the new school food law. Although, they are the response of farmers to market imperfections pursuing wellbeing (Van der Ploeg et al., 2012), from the public procurement perspective cooperatives are seen as the supply response to aggregate small holder production to a larger demand (WFP, 2009). Additionally, all participating cooperatives had already supplied other public food procurement programmes such PAA before PNAE reform. This means that they have some experience in dealing with public markets which eases their entrance to school food markets (Schmitt et al., 2014, Triches, 2015). Hence, city efforts to shift the 'balance of competition' between large food traders/school meals and family farmers cooperatives/school meals do not begin from the scratch.

There is a consensus that in low- and middle-income these supply features are as decisive as changes in procurement law for the occurrence of more sustainable forms of public procurement with food security gains on the horizon (Morgan and Sonnino, 2008, WFP,

2013). Despite this fact, the emerging body of intervention in practices suggests that substituting practices is about changing the means in which particular needs are accomplished (Spurling and McMeekin, 2015). The new school food policy brings the need to purchase more sustainable foods at the forefront, but the means to achieve this goal are to be resolved at the city level. Such resolution, from a practice based governance view, holds greater prospects of success when authorities create conditions for desirable practices to develop and disseminate (Schatzki, 2015).

During decentralisation, the city created these environments by selecting providers able to guarantee convenience, consistency, predictability and large amounts of food with similar physical characteristics. In this arrangement, the city aimed to answer a salient challenge of school food programmes, i.e., securing the food availability over time regardless factual or potential food shortages (Espejo et al., 2009). From a food security perspective, when meanings of availability come to be the organising principle of a food strategy, there is a tendency to rely on economies of scale alongside the food chains, and leave unquestioned the social and environmental costs of producing, processing, distributing and trading of food (Rosin, 2013).

Over years, this vision of food security prevailed in the electronic tendering processes, in which and based on a heavy cost discipline, any supplier, irrespectively of its profile, can ensure a well-balanced menu composition. In fact, the structure and institutionalisation of large food suppliers in Porto Alegre as responsible for school food provision, strongly ordered processes of scaling out the decentralisation reform. Although, this amalgam achieves to offer food at low prices, then to guarantee the right to food, they underwrite some of the major reasons for the occurrence of food crises as shown in the conceptual chapter.

Contrastingly during processes of substituting practices, questions like who produces what, when, where; or how food is produced, processed or transport, are not subsidiary or obscured. This is clear in the processes of menu design in which family farmers foods are major concern for the configuration of a nutritionally and socially adequate meals. Under this approach, procurement for food security is about the creation of convergences between family farming and consumers and, more specifically, for the public plate contribution to reduce food and nutrition security vulnerabilities at the both sides while taking into account other values such the development of the rural and the advantages of promoting minimally processed meals. Then, it has the potential to create more sustainable school food systems.

During the implementation of the law 11.947, the contrast between established supplying routines and new provision arrangements becomes apparent as the motivations and aspirations of actors in these steering sites shows. For menu designers exchange relations

with family farmers cooperatives entails ethics and commitments towards desirable future, as they share good intentions for the well-being of consumers, primary producers, local economy and environment.

Procurement officers, on the other hand, value city-cooperative relations as far as cooperatives become reliable suppliers and adapt to the lowering price rule. Likewise, the acceptability of actions at both places is further distanced at monitoring level. Auditing processes at the procurement office, that legitimizes what is appropriate public agent behaviour, reviews actions against the backdrop of neoliberalised procurement frames. Nevertheless, designing menus respond to a participatory assessments and civil society overseen in which everyday contingencies align with the intention to maintain or improve the quality of service while linking local producers. Consequently, there is not a specific municipal body which claims jurisdiction over the creation of markets for family farmers. Whether such division is the result of routinised tendering methods, the lack of political support, or the hierarchical and layered power structure in the municipality; concerns of non-compliance with the substitution law has led to explore solutions fitting different visions of relations city-suppliers.

In this new, but informal arrangement, the city shapes a procurement framework, creating the conditions for contrasting meanings of the school food market to operate based on the following standards: first, market share for family farmers cooperatives is fixed to a maximum of 30% and paid prices cannot be higher than those reported in the regional whole sale market; second, large food traders compete by lowering prices in electronic-bid and winners sign a 'optional to buy contracts'; third, any supplier must comply with food safety, distribution procedures and quality standards established by the nutrition department; fourth, menu design prioritizes family farmers food availability only insofar the fixed limit of 30% is not surpassed.

Although this arrangement creatively nexus contrasting values, it also reflects the stasis of assessing supply-demand relations in terms of price and the low commitment of procurement officers to weaken the city dependence from large-food traders. This should not be a surprise; often engagements with sustainable school food procurement are not exempt of the legacy of cost reduction strategies (Sonnino, 2010). Within this narrow room of manoeuvre, however, the city targets cooperatives with a social business model that secures fair payments to primary producers – that is those collective devices in which family farmers can influence cooperative decisions and development pathways through socioeconomic inclusion.

Indeed, cooperatives supplying Porto Alegre are more than commercial platforms to deal with economies of scale by bringing together farmers' resources, investing in physical infrastructure, giving legal basis, or providing expertise. Overall, they are sites for place-

based social relations, sharing experiences, generating values, and imagination of the possible. From the family farmers perspective, coops reflect a meaningful collective project that connects individual expectations and livelihood needs, while help them to identify and promote acceptable ways to jointly overcome harsh economic, social or environmental conditions. As nicely recalled by a family farmer:

“Not all farmers like to be part of a cooperative as a cooperative is not the solution for many farmers. We as a group set strict conditions for the cooperative membership and permanence. They should be from the region, have small parcels and share our values. When we think the entrance of a new member is needed, there is a vote in plenary session considering the benefits for both the cooperative and the farmer. All of us are from here, so we know each other, our families and our history. We also know when a farmer will contribute to the collective good, to maintain the cooperative image or help others to improve the quality. Once, a farmer becomes part of the group, he is not obliged to go to CEASA⁹¹ to bargain for his work anymore. No, no, we said not anymore to intermediaries long ago. Instead, we as a group have agreed on the minimum prices, quality standards and quantity, etc”(Family farmer 3)

From the cooperative managers’ perspective, sites of cooperation provide the ground for forming critical relationships to identify, mobilize and reconfigure of elements of practice to build resilience an stabilize decent revenues for family farmers while carefully integrating disperse practices (producing, collecting, classifying, processing, aggregating, delivering):

“You need to know, we are not a commercial cooperative. So, the administration is not thinking in making profits for a reduced group of persons or a businessman. On the contrary, the administration has two main functions. In first place, we facilitate the integration of family farmers and products. We set meetings, organize courses, make celebrations, as well as we collect, classify and sell all fruits. The other function is to find markets and make partnerships with other cooperatives to create new commercial channels. Of course, these two functions work in tandem. If I don’t search for markets I cannot respond to the cooperative members mandate and If I do not facilitate the dialogue between farmers I cannot be sure the cooperative can reliably supply any market we enter” (Cooperative Manager 1)

In short, cooperatives, as ordered forms of collective actions, generate symbolic and material coherence necessary to balance market and non-market relations (Brunori and Rossi, 2000). A discussion which is often overseen in the literature of state-led structured demand for food security in low and middle income countries, especially in considering primary producers as profit oriented actors disembedded from the context in which transactions take place (Sumberg and Sabates-Wheeler, 2011, IPC-IG, 2013).

⁹¹ CEASA- RS is the regional wholesale market.

Linking such cooperatives multiple values and local foods to school meals proved to be a challenge. For years, the city has remained detached from the rural area. As a matter of fact, rural places and family agriculture are absent of the city's territorial, institutional and administrative organisation. As Pothukuchi and Kaufman (1999) show, lack of interest in agricultural issues in municipalities ultimately reflects a separation between the city and the rural as well as that the domain of food provision is taken for granted. At the school food level, one consequence is that in the initial stages of implementing the substitution policy, distance to agriculture translates into: a vagueness of meanings regarding local or regional food from family farming; lack of urban infrastructures of provision to mobilize their and; the recognition that traditional forms of menu planning do not fit in the new circumstances. Moreover, dieticians soon realize that the traditional pilot project center approached to imagine, negotiate, and legitimize the reform is no attainable in linking family farmers. The city does not possess sufficient capacity to directly introduce or circulate elements of practice in the supply side.

In the face of these difficulties, the nutrition department moved from the rationalised approach to design menus to one that entails co-planning. This is to say that in the city of Porto Alegre new production-consumption links are being forged and routinised procurement fundamentals are being challenged, by learning about what to do and by finding common acceptable ends in order to enable coordination of dispersed supply practices. In this context, it is not that changes in the school food regulatory regime, the existence of supply cooperatives or city-adapted framework are not conducive to changes in menu design routines. At the end government's radical policy changes are most often accompanied with new tasks, projects and end purposes or the normative stance of actions (Schatzki, 2013). Yet, the practical coordination and temporal intersection of family farmers is based on local experience, especially in relation to three main features, which I will explain below.

First, it is a relational style that mutually (re) constitutes and circulates images of the new provision practice (see, Figure 13). Fonte (2013) argues that in addition to finding collective symbolic formulations, the capacity to do (buy) things differently rests upon concrete means to proceed and connect places of production with consumption. In the city of Porto Alegre dieticians create communication arenas to discover insights over others' practices while creating shared meanings, practical knowledge and relationship through co-planning what to offer in the daily provision of school menus. Specifically, during the design of menus, menu planners discover the cooperatives social, environmental and redistributional values. At the same time, coops managers engage in conversations of relevance of using fresh and minimally processed foods the basis of adequate school meals. Hence, the reconfiguration of the school food system entails a variety of personal concerns and reflexive deliberations that hinge upon the relationship between the city-cooperative

potentialities/liabilities to supply the school food market and the feedback received during co-planning activities and accommodations as the physical supply of food is executed.

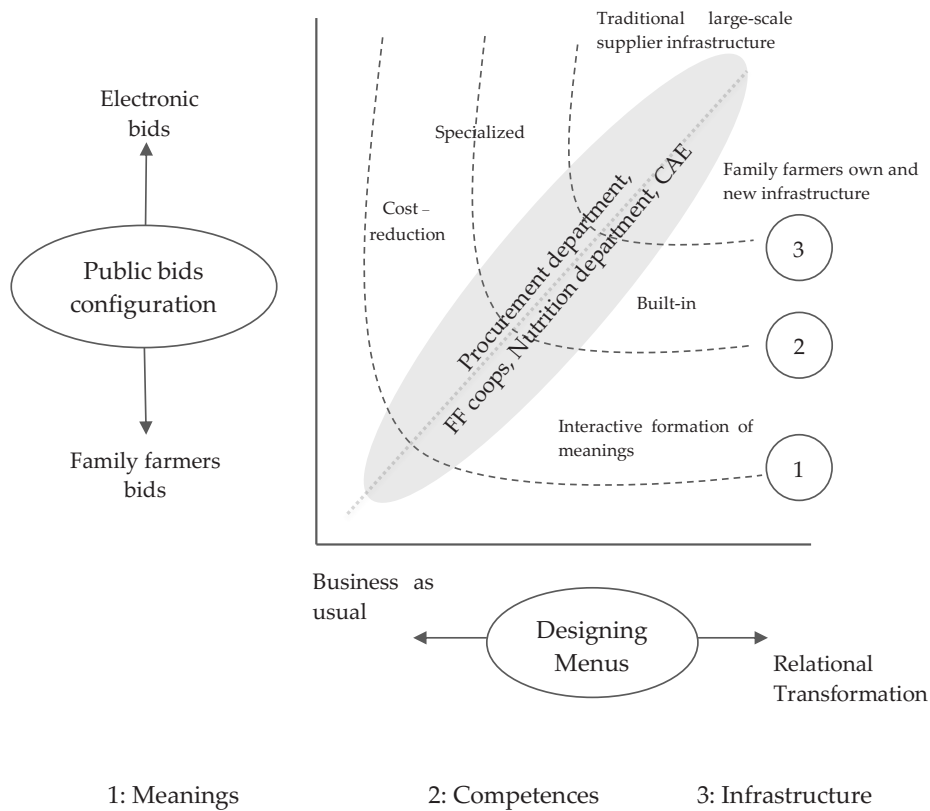


Figure 13 The governance of substituting practice arrangements

During these activities, actors engage in ethical conversations around the new provision arrangement with social, economic and nutritional consequences. It is mostly because of this interaction, and consequent mobilisation of images and sensibilities, that the city links from the universe of cooperatives those in which the metrics of success are more than revenues. Despite this the electronic process through which the city still purchases the vast majority of products, is based on previous procedures aiming to reduce costs, which relies on the specialised knowledge to manage economies scale and its required infrastructure.

On the opposite side, co-planning and interactive formation of meanings before the public bid takes place is entirely missing. While this brings images of transparency and adequacy of action by procurement officials, this also distances a key coordinating activity from the reality elsewhere. Indeed, what appeared to be the solution at the nutrition department through co-planning is taken as a burden at the procurement office. In other words,

institutionalised meanings and compliance measures of the 8.666 laws are the guiding principles when configuring public bids. Hence at the procurement office, the re-constitution of meanings of FF is external to the process of construction of institutional markets. In this way, the room of manoeuvre to make changes and adapt to cooperative offers is very reduced. Moreover, the remaining image at the procurement office of “aiding family farmers” recalls vision of the assistencialist approach to food security – that is gift from the state and not the right of citizens.

In part, these nuances are a consequence of the reluctance of the procurement office to engage in productive conversations with cooperative managers and menu designers as nicely recalled by a cooperative manager:

“It is really important to get the attention of the municipality before we are able to supply schools. Porto Alegre, though, is a peculiar municipality. Look, we have been able to sensitize people at the nutrition department. They listen to us, we talk to them about our reality, they come to our processing industry and we teach them how we do things. The associates also listen to them and they explain why we need to do things slightly different if we want to remain selling our food to the city. With the auctioneers, it totally the opposite happens. The conversation we have with them is about nothing else than the negotiation of a reduced rate for our food” (Cooperative Manager

1)

Despite the lack of a relational style at configuring public bids, the participation of family farmers in the school food market has been conducive to the formation of “new family farmers provision knowledge”. Indeed and while cooperative managers are keen to reformulate the socioeconomic particularities of family farming into ‘a institutional market explanatory discourse’ (e.g., volume, logistics, legal and fiscal documentation, quality standards, adequacy of menus, etc), the nutrition department builds regional and local food knowledge.

The nutrition department, for example, is mapping regional products, diversity, seasonality and local family farms producing fruits, vegetables, and organics. As a result, menus are increasingly being calibrated to the agricultural seasons and based on minimally process food where family farmers participation in this segment is substantial. Such supply and demand competences assist to create healthier menus and ensure more sustainable and less expensive foods in the long term. It also brings students’ consumption patterns closer to natural and agricultural cycles. They supply at least half of leafy vegetables, all fish, 30-40% of pork meat. In addition, since the inclusion of family farmers in the institutional

market, students have had access to agro-ecological rice, citrus, and juices⁹². With time, a key outcome of the inclusion of organics in the school food menu has been the enactment of the city law making the use of a minimum amount of organic products mandatory⁹³. In short, regional family farmers' foods are the base for school menus with lower environmental costs while addressing overweight and obesity. These are important first steps, albeit an uphill struggle against the ingrained city-rural disconnection and pressure of (ultra-) processed based diets.

Competences required to operationalize the school feeding law are acquired by experience. Derived knowledge is kept at the nutrition department in those agents collectively designing menus and managing the relations with the coop managers. A cumulative instrumental knowledge that becomes essential to make slight improvements on the following cycles of public bids. That is to say that the interactions between supply and demand in the nascent family farmers market order, can be considered as a continuous learning process.

Other activities, such as competently sowing, fattening, fishing, picking, transporting, or to say, making salads with new vegetables, etc. for the institutional market, depend upon the farmers/cooperative catching up with a new set of requirements made by the city. Nevertheless, core principles embodying farming and defining farming styles or relations to markets are placed – not fully but largely - beyond the grasp of the relational style to set images of acceptance or competent practitioners of the school food reform.

Conceptually, this means that farmers' or kitchen personnel commitments to the creation of markets for family farmers requires the mediation of social actors to materialize reflexive deliberations, and thus, it is the agency of those located in the middle that is able to shift the balance of competition between conventional suppliers and family farmers practices. In consequence, it can be said that the power to steer the direction is an outcome of both deliberative transformations and personal concerns.

The governance node led by the civil society backs the relationally constructed meanings and resulting competences. Indeed and by endorsing connections with family agriculture, CAE continually encourages the use of fresh, seasonal, local, organically family farming foods in school menus. In this sanctioning instance, the margins of what is acceptable to do are broadened, representing a significant support for menu designers in two senses. On the

⁹² In Brazil, the access to agro-ecological products of vulnerable consumers is very limited. As a consequence they are not part of the traditional family food basket of poor families or consumers in food and nutritional insecurity.

⁹³ The city law establishes that in 2017 a minimum of 10% of the menu composition comes from agro-ecological producers, in 2018 the amount should be increased to 20% and in the following years authorities should progressively increase the quota until achieving 50% in 2021.

one hand, it reminds menu designers that although it is customary to assume that nutritional quality under large food traders provision systems can be adequate, this needs not to be the case. On the other, it makes the case whether relevance and legitimacy of assessments based only on accountancy procedures, hygienic conditions, and meals acceptability are adequate to enable the new arrangement to grow. Put simply, the relation of CAE to family farmers fundamentally questions if the routinised system of procuring, delivering and evaluating fits when the purpose of the service includes creating synergies between school meals and FF.

Second, the interactive approach to link supply and demand fosters collaboration to resolve food based problems. Similar to what other studies report, cooperatives are building platforms of collaboration along the institutional supply chain that can deliver suited solutions to frequent barriers for small-holder (WFP 2012). In addition to this market view, Cooperatives in Porto Alegre actively participate in the configuration of school menus, rather than being merely names on list of providers in the city. Essential inputs to menu co-planning are productive conversations, access to demand/supply information, transparency of it, and understanding of risk and benefits of linking family farmers to school meals. They allow actors to collaborate and solve common problems. Hence, building relationships becomes fundamental for the development of menus.

A singular catalytic force for this to happen is those nutritionists empower local producers to participate in configuring the menu by giving voice to their concerns and potentialities. Small scale and quality adaptations to food offers are an explicit example of this. Nevertheless, concerns are subordinated to the real capacity to deliver food to schools. The resulting output is, then, that in the face of difficulties, school food managers opt to request food from conventional suppliers.

While mixing suppliers can be seen as a solution to supplying large school food markets, from the governance of practice perspective, the prospects of success for the substitution are larger when governing actors undermine the support to the undesirable practice, while strengthening the conditions and expectations for the commendable alternatives to grow (Spurling and McMeekin, 2015). This situation in the city of Porto Alegre does not occur and nutritionist, procurement officers, CAE or cooperative managers find it difficult to articulate a second generation of school food principles. Indeed, actors in these governance nodes designate and prioritize reformist values in a divergent fashion.

This becomes apparent in the low degree of consolidation of final ends. In fact, the second generation of school food principles is not settled or product of attending to FNDE recommendations and operational definitions. At the end, the new school food law tells the local actors little about the reasons for a public procurement reorientation and the goal to

intervene in multiple provision practices. Similar to what happens with the right to adequate school food, it is the local level where the meanings of it are attached.

At the time of making the fieldwork, family farmers' foods signify among others: regional identity, cultural and seasonal appropriateness, fairer transactions, and a desire to support rural wellbeing. This re-valorisation transmutes from menu designers to kitchen personnel, where product characteristics and delivery methods like fresher, organic, testier, authentic, living food or natural denotes changes in suppliers. At the level of the financial unit and contrary to what happens at the nutritional department, family farmers are more considered as a passive recipient of city aid (petty producers) rather than subjects of food rights and active actors of rural development, like family farmers identify themselves in relation to procurement relations. One consequence is the lack of interest in normalising family farming provision systems.

Conceptually, this means that what is interactively resolved between school food managers and family farmers cooperatives finds additional barriers due to the lack of city definitions of the final end of the school food reform. In part, this is a problem of conflicts between the two major contextual forces: general procurement and the school food reform law.

The problem of the absence of a final end is partly resolved by focusing on the type of food to be provided at schools. Cooperatives-city meetings are subordinated to what agro-economists call product elasticity. Indeed, there is a closer collaboration of city/coops in the provision of meats, vegetables and fruits. In addition to be sensitive to perishability, seasonality, and the unpredictability of weather, these products are delivered school by school, making co-synchronisation of activities and tasks of linking supply and demand nearly inescapable. This is nicely captured in leafy vegetables when in advance the cooperative can determine whether famers will be able to coop with the demand. Later, farmers pick up them on Saturdays, the cooperative organize the distribution on Sundays, and upon delivery, kitchen staff made them available for pupils.

This is to say that in the absence of normalised expectations and higher ends, how activities, tasks, foods and menus fit together, and how do they fit into supply and demand routines rest upon co-synchronising demand and supply. As a consequence, implementing practice substitution policy in this way involves co-dependent changes in production, provision infrastructure and consumption. Co-synchronisation, then, enables the governance of dispersed practices through a process of continuous discovery of patterns of interaction. In this way, family farmers markets are not understood as a representation of any demand/supply curve, but they are overall a constant discovery of synchronising activities between the city and cooperatives.

The third feature is the development of new provision infrastructure. Opposite to the organisation of kitchens, refectories, central deposit, etc. in the access side, the city does not build provision infrastructure to link supply and demand. As a result, it is the cooperative hard infrastructure that permits and mobilizes food from family farmers to school meals. As it is shown, cooperatives actively construct and invest in school food provisioning infrastructure from freezers cold rooms, artisanal slaughterhouses, compost units, storing houses, maturation chambers, processing machinery, and distribution trucks etc.

In technical terms and excluding the whole-sale market infrastructure, coops connecting materiality may be similar to those used by the traditional food supplier. However, it is collective ownership, shareability, spatial distribution, and use of family labour that patterns the flows of food in different ways. Primarily, it allows to bypass middlemen and wholesale markets in order to mobilize food (and revenues) as directly as possible from production to consumption places or direct marketing. In doing so, primary producers often get higher or fixed prices, strengthening the re-distributive value of collective action and becoming a device to challenge pervasive levels of low income. At the same time, it is adapted to both institutional market needs and artisanal production styles, but according to explicit criteria developed by the actors involved (Van der Ploeg et al., 2012). Finally, the cooperative infrastructures connect, the previously separated and the real foci of the substitution policy: vulnerable consumers and producers to broaden or improve livelihood conditions (see next chapter six for a detailed account of family farmers cooperative infrastructure nature and organisation).

In short, coordinating practices at the both ends of the food equation lie somewhere between co-planning, collaboration, co-scheduling production-consumption tasks, and cooperatives infrastructure. It is too early to assess the strength and persistence of these practices in coordinating change over time and space. Yet, they meet in what can be seen as object of practicing governance: design of school menus. Indeed, organising menus can be seen as the main activity, effectively linking provision practices at both sides of the food equation, then, to the goals of the school food policy reform (i.e., intervening in practices) As (Brunori et al., 2013) show, it is ultimately through 'boundary objects' that food security actors operate to bridge scales and expectations in the pursuance of change. Moreover, the existence of this boundary object help to explain that interaction between family farmers and city has not been dissolved without their mutual agreement at the public food procurement phase.

In light of distinct narratives, however, designing menus becomes a weakly organised practice, until the extend that 'is subject to the vagaries of the process of competition between several better focused and more tightly organised practices (e.g., electronic tendering process). In this context, Warde (2013) argues that in light of contestation is the power to define what is acceptable to do what determines the strength and durability of

coordinating efforts. Then, it can be compellingly argued that the prospects of success for substitution strategy might be compromised insofar the city does not create mechanisms to weaken the undesirable practice (conventional food supply).

Despite this occurrence, the hybrid procurement framework has decreased the city's dependence on the 'large food traders - whole sale markets - middle man' amalgam. Indeed, the creation of markets for family farmers has contributed to curb the oligopoly in the institutional market dominated by large food traders. In doing so, the new school food law paved the way for the participation of medium-scale cooperatives in school markets of large school food districts. Equally interesting is the fact that most of primary producers of this cooperatives are too small to function within well-established food chains, but large enough to have some marketable outputs. This is a major output: linking food security and family farming policies in large school food districts. Alternatively, it can be seen as the right to set place-based school food policies and the historical struggles to gain access to food markets in Brazil, which 'represent a potential mechanism for achieving food sovereignty, until the extent they increase access for both marginalised producers and consumers who have been historically excluded from agricultural markets'.

Finally, it is not yet clear if this nascent form of coordination of practices through synchronisation and collaboration without the city's direct intervention in the supply side holds prospects to effectively drive the transformation of the school food system. On the one hand, it is true that targeted cooperatives belong to novel family farmers enterprises that operate within the field of sustainable initiatives. Furthermore, the financial transfer of city resources to the nearby family farmers has brought many benefits as reported by all cooperative and family farmers interviewed. On the other hand, and in spite of having sufficient food from family farmers to supply the school food programme, including additional cooperatives has become a very difficult task. Then expecting that promising strategies, and actions of symbolic exchange – and resulting temporal values at the centres of governance – are enough to engender needed competences and infrastructure to effectively link additional family farmers is, under current conditions, simply unattainable. The city's interest in investments and regulating the use of its agricultural belt is nearly absent.

Likewise, as well established in the previous chapter, school food systems, farming styles and procurement laws in Brazil are inserted (and in many occasions subordinated) in macro-economic strategies and political alignments. Hence, actions and interactions with the aim of organising supply-demand practices are of limited scope, insofar as the city does not value the relevance of shortening supply chains or changes in meta-governance structures appear. And, the latter one extends beyond the influence of interactions at the governance nodes.



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Chapter Six: The Supply Side of Porto Alegre School Food Market – Family Farmers’ Collective Devices

This chapter aims to investigate how, to what extent, and under which conditions the participation in the school food market of the city of Porto Alegre induce changes in the governance structures, processes and practices of family farmers’ food supply collectivities.

Introduction

Chapter Four of this work shows major policy orientations in relation to food security and rural development. It demonstrates how the state development strategies influence PNAE, particularly during conservative modernisation, dictatorship and the return of democracy. Since the country’s re-democratisation, PNAE has been progressively embedded in reflexive governance, aiming to connect the two ends of the food security equation – that is, vulnerable FFs and consumers. At the production side, the new governance arrangement has been conducive to the re-valorisation of family farmers, since they are considered to be key actors of the national food and nutrition security system. In particular, cash transfer programmes, rural retirement schemes, credit guarantees, dedicated institutional architecture and the creation of institutional markets are the state response to strengthening the livelihood portfolio of FFs (Rocha et al., 2012, Van der Ploeg et al., 2012).

Although all these policies and programmes are essential to improve the food and nutrition security of FF, this chapter is dedicated to their participation in institutional markets (positive returns at farm level). As shown in Chapter five, targeted institutional markets are arenas where the state purchases food from FFs for social consumption. In essence, they aim to respond to a crucial question for the food security equation in Brazil: how does the power of the public plate influence the construction of markets with food security and rural development goals?

Conceptually, this chapter assumes that the power of the public plate in assembling institutional markets relies on the state capacity to establish market orders.⁹⁴ Such ‘market order’ has been variously framed as sustainable school public food procurement, mediated

⁹⁴ The idea of a public institutional market order suggests that the state is able to establish the conditions of trade by using its financial muscle and regulative and normative authority. In the case of Brazil, the general rule is procuring food from family farmers, and the decentralised agreement is the localisation of the school food system (Grisa, 2010). As explained earlier, the institutional market order for family farmers in Brazil can be seen as the result of multiscale political-boundary struggles over the creation of economic and food security rights. In its current form, the market order principles and normative standards for FFs are determined in the school feeding law 11.947 of 2009 and the FNDE resolution no. 26 of 2013. Both of them are widely discussed in Chapter 4.

or institutional markets (Morgan and Sonnino, 2008, Wittman and Blesh, 2015, Schneider, 2016a).

While this holds validity from a regulatory perspective (e.g., green state), the previous chapter shows that successfully created market orders rely on mutual adaptations of both producers and consumers – not only from the state (Sonnino, 2010, Buckley et al., 2013, Froehlich and Schneider, 2013). Such deduction is also supported in the international school food literature which underlines that during the emergence of new expectations or procurement meanings, institutional market participants face profound coordination problems to be resolved in a novel, but often collective manner (Conner et al., 2012, Global Panel, 2015).

In fact, the city of Porto Alegre deploys the power of public plate by both establishing the rules of the game and creating deliberative arenas between supply and demand actors, the latest with the goal of adapting the new school food law to the local conditions or provision practices. In other words, while the notion of institutional market orders refers to the regulatory/financial power of the state, the collectively constructed arrangements and meanings constitute the emergence of another important element when linking supply and demand.

Despite this widespread occurrence, in the case of Brazil, it is up to FFs to fulfil the rules of the game (collectively established or not) and comply with the legalities of public procurement norms and provision contracts. It is precisely within this occurrence that FFs have begun to create informal or formal organisations, especially when supplying large school food districts (Belik, 2016, Schneider et al., 2016). Here, it is assumed that they can assist FFs in overcoming provision barriers such dense legal, fiscal and bureaucratic demands of procurement laws, and other fiscal, sanitary, processing and transport regulations while enhancing the capacity of primary producers to aggregate supply and standardise cities' quality requirements.

Within this context, then, the participation of FFs in the institutional market faces an additional governance problem – that is, the organisation and coordination of the supply side. This is to say that FF collective devices constitute the final element to enabling the materialisation of decentralised and localised institutional markets in the present research (see, Figure 14).

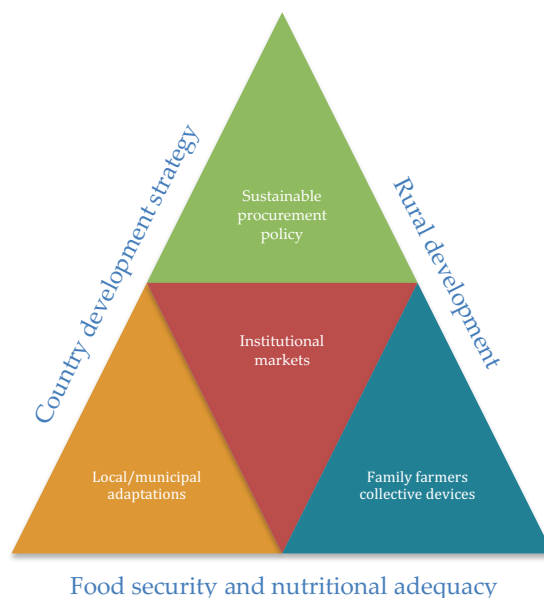


Figure 14 Research themes

In multilateral organisations, orthodox economic circles and food aid enterprises, FF collectivities have been approached from two main perspectives. On one hand, there are studies that subordinate the organisation of FF with the instrumentalisation of cooperatives, “...given [their] skills in crop aggregation to guarantee quality and scale” (WFP, 2015, p. 1). That is to say that FF collective devices are regarded from the outputs they are able to aggregate. As a consequence, it is assumed that institutional markets would induce collective action projects, since changes in market incentives (quantity/quality demanded and price) can balance the benefits of cooperating versus the costs of participating individually. Here, it is often assumed that FF cooperatives can compete with similar strategies of those working within the agro-industrial food model or large-scale profit oriented marketing cooperatives.⁹⁵ On the other hand, FF organisations are thought to resolve the problem of organising the supply side by building (institutional) markets capacity and establishing marketing procedures while investing in hard infrastructure, access to information, management, logistics, and product qualification (see, e.g., IPC-IG, 2013). In turn, these new skills are believed to reduce market barriers to entry and improve FFs’ position in relation to public procurement procedures.

While these visions hold popularity, they also face academic and practical scrutiny. On one hand, it is well accepted that in constructing local school food markets, other non-instrumental values are equally important at the moment of collectively mobilising food

⁹⁵ That is, through mobilising economies of scale to reducing transaction costs.

from farm to schools (e.g., trust, product specificity, emotional reward, social ties, social capital, solidarity, particular geo-histories, state support, etc.⁹⁶). On the other hand, inferring that the problem of organising the supply side can be resolved by building collective marketing competences tells very little about how organisation and coordination of the supply works in reality. Moreover, pointing out that collective action hinges upon particular management styles can undermine actors' economic and political struggles to create new realities (or alternative provision cooperatives, to put a name to the creation of more sustainable food futures) (Hassanein, 2003, Lang et al., 2009). From these economic and market skills based perspectives, then, there is a tendency to construct the narrative of producers' associations upon nominal functions without carefully considering those governance practices, processes and structures enabling first and foremost the participation of FFs in large school food districts.

Thus, this chapter assumes that collective devices have a particular trajectory of acting collectively which is reflected in the way FFs govern their collective initiatives that might be influenced when supplying food to school markets. In fact, FF collective devices tend to construct governance approaches⁹⁷ to normalising provision practices, which in turn assist in building up trust among school food authorities (or other consumers) and their members. Those approaches are often influenced by external and internal dynamics. Externally, for instance, they can be influenced by the need to bypass intermediaries, previous experiences with other markets, public policies, regulations or changes in overall consumption patterns. Internally, political mobilisation of family farmers, sustainability concerns and the work of social entrepreneurs have a substantial role to play when assembling and maintaining collective initiatives.

To substantiate these claims, this chapter is divided into three sections. The first section briefly exposes general patterns of FFs' associative efforts in the state of Rio Grande do Sul. This is done to demonstrate that FFs' collective efforts do not emerge in a vacuum, as collective FF projects in the southern part of the country have a history of emergence. The second section, with the help of the analytical framework, describes and presents the particular governance approaches of the five farmers organisations (three cooperatives and two producers associations) briefly described in Chapter Three. The third and final section discusses the findings and locates the collective governance efforts of family farmers within the conceptual forms of governance structures, processes and provision practice arrangements.

⁹⁶ These non-economic values are discussed in the literature review, as well as the authors or research reports indicating how they become operational to the functioning of innovative school food markets.

⁹⁷ As indicated in the methodological chapter, a governance approach involves specific ways of organising the collective effort, including its legal form and management style, and those coordination arrangements of family farmers that enable the practice of providing food to schools to the city of Porto Alegre.

Locating the Context of FF Associations in the State of Rio Grande do Sul

Since 2009 when PNAE began to actively create institutional markets for FFs, municipalities located in the southern part of the country have quantitatively outperformed their counterparts elsewhere. In fact, one year after the promulgation of the new school food law, about 70% of these municipalities were already purchasing food from FFs, and this number increased to 89% in 2013 (FNDE, 2015).⁹⁸ Furthermore, in 2013, about 40% of municipalities in this region had already surpassed the minimum 30% of food that should have been procured from FFs as required by law (*ibid.*).

According to IPC-IG (2013), these regional numbers are one consequence of the existence of higher numbers of family farmers organisations in the southern Brazilian states.⁹⁹ In 2006, for example, 159 780 rural properties in the state of Rio Grande do Sul were part of farmers' formal or informal organisations (29% of the total found in Brazil) (see Figure 15). In turn, it is considered that formal and informal FF membership is the result of higher levels of social and natural capitals, historically present in the state of Rio Grande do Sul (IPC-IG, 2013).

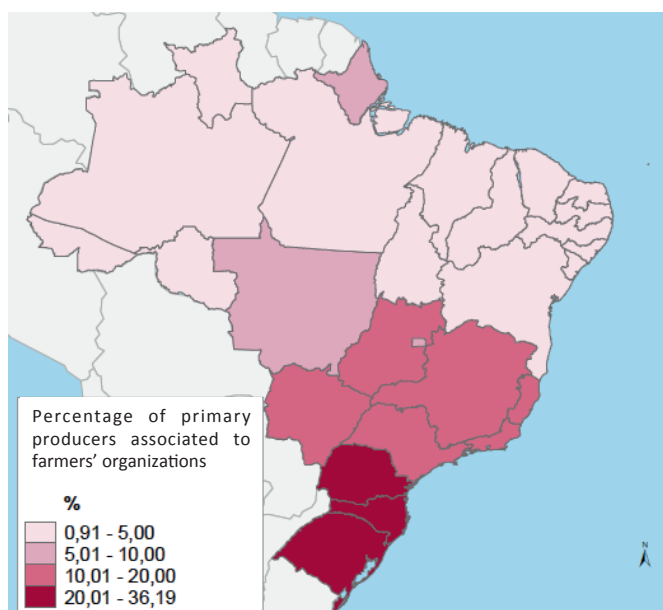


Figure 15 Presence of FF organisations in Brazil

(Source: SEPLAG-RS 2012)

⁹⁸ In 2012 the national average of municipalities purchasing food from FFs was 67% and in 2014 73%.

⁹⁹ This picture also occurs in other productive areas where Rio Grande do Sul is the second Brazilian state with the largest number of cooperative members, reaching 2.7 million people and the first in number of cooperatives.

In general, three phases can be distinguished in the development of FF organisations in the State of Rio Grande do Sul. The first phase, or embryonic forms of FF organisations, can be traced back to the 19th century when European migrants working in small agricultural production units and low financial resources organised themselves in colonies to counterweigh the power of official merchants (Schneider, 1999). In this context, joint action aimed to promote both social inclusion and economic goals, including formalisation of property rights and marketing of surplus products within associated colonists (*ibid.*). According to Scopinho (2007), this form of joint action was intrinsically connected to the livelihood principles of rural communities and was a way of dealing with scarce resources, common needs and solving collective problems but did not have any relationship with formal farmers' organisations created during the agricultural modernisation project or principles of democratic governance.

The second phase began during the 1940s-50s, when government incentives pushed the formalisation of mixed¹⁰⁰ farmers' groups in the state of Rio Grande do Sul; this was to deal with increments in production during the agricultural modernisation project. As a consequence, the number of farmers' organisations substantially grew – particularly those marketing cooperatives dealing with the transportation, processing, packaging, distribution, and marketing of milk, grains and grape sub-products. Analysts concur that this second wave of formal family farmers' organisations was a consequence of state policies aimed at expanding export crops, introducing green revolution packages and promoting economic growth based on the selective allocation of incentives to larger farmers and regions with agricultural vocation for intensive agriculture (Schneider and Loureiro, 1979, Scopinho, 2007).

Such cooperatives, however, became wholesale trading houses and most of them were under the control of larger farmers (a form of patronage) who began to use the processing infrastructure and logistical capabilities to control management boards and set prices to the detriment of smaller producers. Because this organisational structure was a 'normal' occurrence during the dictatorship, smaller scale farmers' trust in producers' cooperatives or other forms of collectives substantially shrank. As a cooperative manager nicely recalls during the research:

"There are many kinds of farmers associations, small, medium, very large. Here, in the state of Rio Grande do Sul, they do not have the best reputation. They did not become a solution for many of us. You can go and ask the associates of marketing cooperatives what are the benefits of being a member of a cooperative. They often say that the trucks pick up the products at the farm gate.

¹⁰⁰ Mixed cooperatives refer to the association between large landowners and small-scale farmers. It is argued that in the context of agricultural modernisation, the state promoted mixed cooperatives as a form of organising rural economies by coinciding the transportation, processing and marketing power to capitalised landowners while trying to solve market access problems experienced by artisanal producers.

Nevertheless, they rarely mentioned other important cooperation values like mutual support, solidarity or friendship.” (Coop Manager)

In this context, Lima (2004) argues that differently from what is endorsed worldwide by the well-known International Cooperative Alliance (ICA), where the identity¹⁰¹ of cooperativism hinges upon joint ownership and collective decision making through democratic principles, in Brazil primary producers’ cooperatives recall the characteristics of a heavy interventionist programme, fully organised to be subordinated to the agribusiness agricultural development model.

One consequence of such an associative model for family farmers was the loss of dynamism of family farmers’ collective efforts. In turn, access to urban markets remained controlled by intermediaries (e.g., middle men, wholesale traders, supermarkets, large-scale cooperatives, etc.) who remained principal actors connecting individualised producers and consumers in big cities (Belik and de Almeida Cunha, 2015).¹⁰²

If family farmers’ associative forms during the intensification of primary production meant business as usual, the emergence of cooperative forms to supply food to institutional markets can be considered marginal. In fact, with the enactment of SISAN, PNSAN and consequent formalisation of institutional markets, public food procurement programmes favoured collective forms of provision over individual farmers. For example, a national survey carried out between 2003 and 2007 by the National Institute of Solidarity Economy in Brazil (Secretaria Nacional de Economia Solidária [SENAES]) shows that most new cooperatives and associations located in rural areas are linked to family agriculture and agrarian reform. The same study also revealed that that collective marketing and access to public procurement are at the top of the list when dealing with the viability of poorer family farmers.

¹⁰¹ It is not the primary intention of this thesis to define and characterise what a primary producer association or cooperative is. Nevertheless, to give clarity over what a jointly owned enterprise entails: in this context, ICA underlines that in spite of being enmeshed in a market driven economy, the identity of a cooperative is distinct from other enterprises as ideals and practices are elaborated upon seven principles: open, voluntary membership; democratic control by members; economic participation from members; organisational autonomy and independence; education of members and public about cooperatives; cooperation among cooperatives; and concern for community. Such ideals are often contrasted with private, where in pursuit of maximising marginal individual returns, owners concentrate the power of ownership on individuals (or shareholders) and control over decision making. Barton (1989 p, 27) exemplifies this relation in terms of labour relations by signalling that in a cooperative business, model ownership and control are expressed in terms of: voting being in proportion to patronage; equity provided by patrons in proportion to patronage; and net income distributed to patrons as patronage refunds on a cost basis.

¹⁰² Alternatively, individual family farmers are connected to markets through large-scale marketing cooperatives or processors of pork, poultry or milk that have developed as a consequence of export oriented food systems. Finally, a small parcel of family farmers entered into the quality economy by developing cooperatives for niche markets to cover the emerging expectations of consumers for organic or differentiated foods (Wilkinson, 2008).

Summarising, cities and FFs ascertain that associative family farmers' efforts are key mechanisms by which vulnerable groups of consumers and producers connect with each other in the context of attaining food and nutrition security outcomes (Silva and Silva, 2011). According to Singer (2002), this third generation of collective devices – of which a cooperative is a legal form – can be defined as collective and self-managed economic initiatives of the social economy that aim to guarantee land rights, work and decent income to its members, whose basic principles are: collective ownership of the means of production, processing, distribution and marketing; democratic and inclusive management of the initiative; and fair distribution of net revenue among members and other participants of the economic exchange.

Singer's (2002) conception resembles the ICA definition of a cooperative, which encompasses those enterprises jointly owned and democratically-controlled, in which people unite *"voluntarily to meet their common economic, social, and cultural needs and aspirations"* (International Cooperative Alliance, 1995); yet, it locates transactions within the social economy and not within traditional capitalist market structures. This divergence is widely discussed in the literature, locating collective actors' efforts to access markets within two projects – one of an emancipatory nature, the other of an economic nature – to fulfil the needs and wants of associates whether or not they operate alongside the capitalist market exchange. Rather than adopting either of these ideological or pragmatic visions, this chapter understands family farmers' collective devices moving alongside this joint-action continuum. In fact, and as widely discussed in the conceptual chapter, neoliberal market conventions and civic values are not inherently contradictory in the organisation of institutional markets. Furthermore and in practice, family farmers collective devices tend to combine economic, social, and environmental aims with the nutritional values fostered in the school food reform.

It is within this third generation of FF collective devices that in the following pages I discuss the role of five cooperation initiatives enabling the occurrence of institutional markets in the city of Porto Alegre.

Family Farmers' Collective Devices

While seeking higher degrees of satisfaction and better socio-economic outcomes can be seen as the igniting energy for acting collectively, the five associative efforts examined vary in relation to the identity of the collective effort, state support, participation principles and development paths. In turn, they distinctively support the creation of new linkages for supply and demand and alternative provision practices to ensure an adequate supply of food to schools through a particular governance approach.

COOMAFITT – Family Farmers Mixed Cooperative (*Cooperativa Mista de Agricultores Familiares de Itati, Terra de Areia e Três Forquilhas*)

COOMAFITT is a growing FF cooperative that specialises in the production and commercialisation of food for institutional markets. In the year 2015, the coop supplied food to more than 700 state institutions through the state food security programmes PAA and PNAE, summing about R \$4.1 million. Of this amount, between 80% and 70% is directly transferred to 170 FFs, obtaining higher earnings as the coop pays at least twice the price that individual producers get at the regional wholesale market or intermediaries. The percentage charged for commercialising is to pay administrative/logistical expenses and coop fixed costs. This amount is defined at the general assemblies, based on the need for minimum resources to secure the financial sustainability of the coop, without creating burdens to those who produce and consume. Equally relevant is that prices are democratically set during the general assembly so that higher paid prices for some products in public calls should compensate lower ones. Supervisory board members report that FF's livelihood conditions are substantially better after the creation of both the coop and institutional markets.

Another distinctiveness is the fact that contrary to other FF coops, COOMAFITT does not supply semi-processed foods or meats. In fact, FFs produce more than sixty different kinds of fruits, vegetables and cooking spices. The literature considers the commercialisation of these products to be problematic for small-scale producers and schools. This is because perishability and the high risk of losses during post-harvesting stages can negatively affect suppliers and public procures. Furthermore, the coop food portfolio is based on seasonality, variety, and nutritional content.

In the following pages I describe and examine the trajectory of this cooperative, as well as its governance approach to succeeding in participating in large-scale institutional markets. They underpin the importance of aligning food producers' non-commercial and commercial interests, extension services and infrastructural needs, strategic partnership for distribution, and the school food requirements to the FF's producing styles and capacity. In doing so, the coop has become a collective device through which FFs can participate in public policies while taking part in the economic, social and political life of their regions. In this context, COOMAFITT is an expression of FF-based rural development strategies.

Emergence and Construction of COOMAFITT

At the end of the seventies, farmers in the region of the north coast of the state of Rio Grande do Sul became increasingly embedded in the so-called 'green revolution'. As in other parts of Brazil, modernisation packages sought to adopt monocultures and external input dependent agriculture, specifically tobacco, vegetables and silver-type bananas. In

addition, there were patterns of land accumulation in the hands of more capitalised farmers and the displacement of smaller producers to the hilly, less fertile parts of the region (Medeiros and Tozzi, 2012).

The commercialisation of fresh products was concentrated in two markets: the wholesale market of the city of Porto Alegre (CEASA/RS), and in the coastal municipalities of the region. Both presented unfavourable conditions for primary producers. The wholesale market heavily relies on intermediaries who transport production from farms to the city, retaining most of the profits in this flow. In the case of sales on the coast, it is a seasonal market. It only functions from January to mid-March, when there is a holiday period. As a result of the hostile market environment, many FFs migrated to the city seeking better prospects, or remained in the region under very difficult economic conditions.

To face these adverse settings, in 2002 eight honey producers began to organise a collective device to acquire processing equipment to improve the quality of their product. In the light of very limited investment capital and expertise on large scale honey processing, they joined a state programme (RS-Rural) co-financed with resources of the World Bank; the programme aimed to decrease the levels of rural poverty and environmental degradation by promoting assisted family farming to run productive projects. Though RS-Rural honey producers secured financial resources for investments and ensured maintained technical assistance, since then it has fallen into the hands of EMATER-RS.

Having a better product, however, did not immediately translate into better access to markets. To overcome this barrier, the coop members decided to open a direct sale point with the goal of offering their products to consumers going to the beach during weekends or holidays seasons:

At the time the state were constructing the Sun Route,¹⁰³ we talked to the EMATER people, we want to sell honey and bananas right there, so we made a rustic shelter. But the staff of EMATER went there to see and found it very ugly and they said: 'You have to get out of there, no one will stop and buy'. Then we said: 'We will only stop running the store if you guys find a way to sell our products for better prices, because until then, we used to sell to a middle man almost for free'."

(Coop Founder)

The direct selling strategy was unsuccessful. In 2004, the collective initiative came to an end. FFs argued that infrastructural weaknesses, high operational costs, the low variety of products offered and lack of experience at selling directly were the causes of the initial failure. Despite these drawbacks, founding members began to experience what it means to

¹⁰³ The Sun Highway connects the metropolitan region of Porto Alegre to the coast. In normal conditions, it takes between 1.5 to 2 hours to reach the city.

act collectively to create commercial channels and lower dependence on traditional market structures. Specifically, founders report that the project was fundamental to: identify collective needs and problems and virtues of acting collectively; get in contact with the state agencies in charge of extension and municipal authorities; assert the need of joint infrastructure to lower processing costs; and underpin organisational challenges of small scale producers. Furthermore, they came to realise that in lowering the dependence on intermediaries, the processing and direct selling of honey were not enough, since many of them produced a wide variety of fruits and vegetables.

These reflections together with the visits to other FF cooperatives set the ground for the emergence of the COOMAFITT. Indeed, on September 5, 2006, COOMAFITT was officially opened in response to FFs' needs with the goal of representing the market interest of FFs and assisting them in the organisation and planning of collective selling. Initially, 23 family farmers of the municipality of Itati, summing a total of 31 members, were registered in the first coop statutes. They did not spontaneously appear showing interest in participation. Extensionists and leaders of the first group of honey producers took at least one year to identify and engage with the incoming FFs. According to the extensionist of Terra de Areia, these stakeholders were mostly banana producers already participating in PAA with problems in transport, packaging and delivery of produce to food security institutions.

So, the idea to join COOMAFITT represented a practical solution to an existing dilemma: intermediaries vs institutional market requirements. These stakeholders also envisioned that the coop could help them to overcome other market access barriers like food safety regulation and quality standards. In fact, from the new members' viewpoints, COOMAFITT had a real potential in helping to address the issue of market access: *"cooperation is central to PAA and PNAE, alone FFs are hostage to the price of intermediaries"* (Coop Member). Furthermore, the new members had already begun to visualise a key feature of the coop governance approach - that is, managing production according to productive groups that, by that time, increased from honey producers to the banana group. The latter began to carry out the same tasks as the former, or revising the market conditions for bananas (e.g., dominant actors, price formation, maturation conditions, packaging, selling options, etc.).

In this context, then, it can be argued that since the earliest times, FFs focused on improving the livelihood conditions of FFs through their organisation in production groups and the marketing of members' products through the coop. Likewise, the coop sought to escape from traditional primary producers' cooperatives and established that at least 90% of the members must be certified FFs in a position of DAP. Nevertheless, during the first three years of legal existence, the coop did not have enough capital to buy FF products or seek alternatives to the CEASA. This meant that the collective effort remained away from its initial goals. During this time, FFs realised that to improve the conditions for accessing new

markets, they needed to invest in logistics. Within the constraints of not having direct marketing competences, they returned to EMATER-RS extension agents.

According to them, the key to challenging installed market structures was to invest in an attractive FF shop next to the highway, as well as in trucks and storage facilities. To do so, they applied to the Ministry of Rural Development (Ministério do Desenvolvimento Agrário – MDA) for resources. In 2007-8, resources were finally granted and COOMAFITT bought a truck and constructed a well-equipped FF shop that, according to the coop manager, had insufficient capacity for the large quantity of fruits and vegetables FFs were producing.

Paralleling the investments in logistical assets and the reported low commercialisation volume at the shop, the coop began to redirect efforts towards institutional markets. Indeed, with the assistance of EMATER-RS, the agricultural secretariats of the municipalities of Itati, Terra de Areia e Três Forquilhas and the FFs' workers union, in 2009 the coop began to supply food to food security programmes through PAA and PNAE. Since then, institutional markets represent the major commercial channel of the coop, selling more than 95% of members' production to the state.

During the first selling projects to PAA, a committed founder member of the coop and an extensionist were in charge of most of the coop's commercial activities, including the presentation of selling projects to municipal authorities, collecting, distributing and presenting all the paperwork required for final payments. Nevertheless, the amount of food distributed to food security programmes was minimal in comparison to the FFs' selling capacity. In fact, in 2009 and 2010, the coop's billing to the state was R \$ 19,000 and 40,000 respectively, representing what one and two FFs are entitled to sell in PAA. Nevertheless, with growing expectations on institutional markets, the general assembly decided to appoint a general manager in 2010. Since then, he and two coop members have been in charge of managing the commercial and logistical interfaces with municipalities and primary producers.

Alongside changes in the management approach, the coop decided to significantly link more primary producers. To do so, the coop and extensionist of the three municipalities began to map FFs interested in becoming part of the collective device. At that moment, they also made an initial survey of products, qualities and quantities they were interested in commercialising through the coop. As a result, in 2010, the coop engaged one hundred more FFs, all of them producing a wide variety of products. In 2014, another forty FFs applied for entrance, totalling 173 FF members.¹⁰⁴ Old members and new members, then,

¹⁰⁴ In a follow up phone conversation conducted in September 2017, the coop manager reported that today the coop consists of 223 FF members.

were asked to form the coop productive groups that since then are assembled in: producers of grapes and pineapples; honey, sugar cane by-products and flours; bananas; vegetables; breads and sweets; artisans and producers of ornamental plants; and producers of grains and seeds. Once again, participants of these groups, guided by participatory methodologies of EMATER, were required to make market and group assessments. In turn, they were able to aggregate individual needs and make specific demands to coop managers in relation to specificity of products, territory and market aspirations.

The inclusion of more FFs is both instrumental and substantive. On one hand, the cap of institutional markets determines that FFs supplying PAA and PNAE cannot sell to state institutions more than R\$ 40,000. This means that the increasing demand of coop foods could not be supplied by the initial thirty-one FFs. Moreover, a larger membership means that potential shortages of food already procured in public calls can be covered by another group of farmers or another product of similar nutritional value. Likewise, a broadened FF base can secure one prime asset of the coop: food variety. On the other hand, the coop's initial goal of bypassing intermediaries has been broadened to include sustainable rural development goals and cooperation values. Indeed, the mandate of the general assembly is to promote rural development, by means of the organisation of family farmers and the marketing of quality products under fair prices, seeking an improvement in quality of life of FFs. It is also sought to booster social, environmental and cooperation responsibilities between members.

The combination of market and non-market values in the operation of the coop is immediately visible when visiting the coop. For example, managers and FFs have changed the very wording of economic relations. Here, the coop does not 'buy' food from the farmers, they 'hand over' the farm output to the coop under strict trust based relations. The FFs' mandate to interlink market and social goals is further exemplified in the core cooperation values they consider to enable the relations between FFs and themselves with the coop managers. In this context, the coop should function as a collective device that, in addition to commercialising products, should promote real participation, consequent criticism, transparency, honesty, complicity and partnership.

Changes in the composition and management of the coop were conducive to the astonishing growth of coop sales from R\$ 300,000 in 2011 to about R\$ 4.1 million in 2015. In this year, the cooperative provided food baskets on a weekly basis for 1,025 food insecure families and delivered fresh fruits and vegetables to 400 different schools every week, in thirty different state municipalities. To do so, the coop invested in the construction of a storage building and equipment for the maturation of bananas.

This infrastructure is located closer to the metropolitan region of Porto Alegre, allowing for the reduction of coop operative costs of about 50%. This investment was possible because

since 2012, associates have determined that coop surpluses should not be re-distributed within them, but to make investments in the coop's logistical needs. Another important action of the coop to strengthen infrastructural capacity is to apply for state resources supporting FFs. In 2014, for example, the state of Rio Grande do Sul granted R\$ 280,000 for the purchase of distribution vehicles. In total, the coop operates a fleet of fifteen trucks and vans on a daily basis.



Figure 16 Getting ready to deliver
(Source: the coop)

Alongside the coop's commercial expansion, FFs began to demand additional services from the coop and from the municipal extensionist. This occurrence is also reported as essential for the strengthening of COOMAFITT. According to coop directives, they are more than simple extensionists - they are overall social entrepreneurs and FFs' organisational experts. They are, for example, key stakeholders in the design of participatory spaces for decision making at decentralised levels, as presented in the next section.

For the moment, in relation to the evolution of the coop, the exchange of information and administrative cooperation between extensionists and coop managers together with the trust of FFs on their representatives has been conducive to linking the coop to another FF organisations. In turn, the networking of other FF organisations is thought to help move towards the new direction the coop aims to set in the coming years – that is, to enhance the FFs' products and service delivery, and open alternative commercialisation channels to public procurement.

To do so, the coop has begun to directly assist in the improvement of production processes, logistics and management of family farms. For example, in 2013 COOMAFITT established relations with a nearby coop to jointly deliver food to schools as a means of reducing costs and delivery times as well as improving punctuality. The latter are characteristics that school food procurement authorities consider essential of a qualified supplier of fresh products. This partnership continues today, and according to the coop manager, it took away the FFs' concerns of approaching other organisations working for the benefit of small producers and consumers. According to the coop records, their joint actions benefit more

than forty five thousand food insecure people via the PAA, and around two hundred thousand pupils.

The coop also established contact with ECOCITRUS and other regional NGOs assisting the building of competences in transitions to agroecology; this is to cover an intense request of some FFs to participate with organic products in the school food market:

"Many of the fruits and tubers we were producing were already pesticide free, but, we could not sell them at higher prices. So, together with other 12 FFs, we told to the manager, we believe in agroecology and we want to produce and sell organic, what can we do?"

(Coop Member)

In 2012, in an order to facilitate the transition and certification process, the coop in alliance with the regional NGOs decided to integrate the regional Participatory Conformity Assessment Body (Opac) Litoral Norte. To do so, it grouped the FFs who were interested in transitioning to agroecology and offered technical and financial support, consisting of visits to agroecological experiences, coordinating visits of experienced agroecological farmers, financing participation in seminars and regional exhibitions, and the compromise to buy all the production during the transition period.¹⁰⁵

In a follow up conversation in 2017, the coop manager stated that the coop increased the number from 12 to 24 certified organic producers and that the number was expected to double in the coming two years. As a result, the cooperative also began to invest in dedicated infrastructure for the distribution and selling of organic products, including the construction of a storage and handling unit for organic products close to the city of Porto Alegre. In short, the coop strategy to enhance the quality and variety of fresh products is to reduce the economic and knowledge uncertainties that agroecological transition creates.

In sum, the increasing number of FF members, the construction of reliable food distribution infrastructure, as well as the deepening quality of the food indicates that COOMAFITT's trajectory is transversally connected to the creation of institutional markets. Likewise, it shows the capacity of collective devices to mobilise the power of the public plate in the construction of FF projects with economic viability, social justice and environmental sustainability. Now, I turn to how this process comes about through the lenses of governance.

COOMAFITT Governance Approach

The current cooperative scenario is characterised by a strong presence of the coop in the

¹⁰⁵ It is noted that the coop does not buy all members' produce as they produce higher amounts during harvest or student holiday seasons than the coop can allocate to institutional markets.

large institutional markets of the Metropolitan Region of Porto Alegre, especially schools, PAA, hospitals and prisons. Traditionally, the fresh food markets in this region are characterised by a stable supply at low prices for large procurers (either coming from the state or distant markets). There is also a consensus that in terms of quality (external appearance kind), the fruit and vegetable supply present more than adequate characteristics. This means that public consumers are both extremely careful in relation with the suppliers' reliability in terms of fresh products, and selective in relation to saving costs at the moment of procuring foods. Therefore, if the school food reform guaranteed the access of FFs to institutional markets, they are requested to offer similar prices, qualities and convenient modes of delivery.

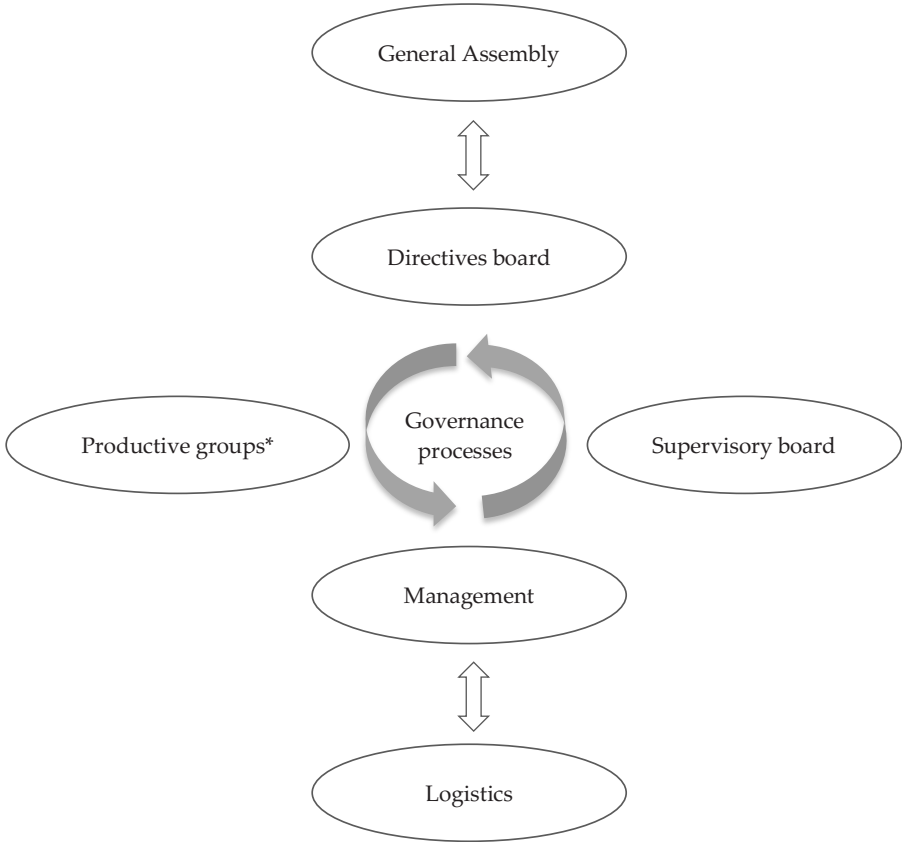
To compete in this scenario, the coop has over time fashioned a novel participatory or inter-nodal coordination arrangement seeking to create a vivid space for FF social relations, an adequate collection/distribution infrastructure and robust place for the formation of management/logistical competences. In turn, this arrangement helps reduce transaction costs while developing a strong logistic capacity – that is, delivering food at the right time, observing the municipal quality requirements, packing in the right size, and swiftly attending to potential supply mismatches. In such model of action, the governance structure, processes and practices interlink to enable the provision of FF food as freshly as possible without using artificial conservation techniques.

o *Governance Structure*

In the first place, the formal organisational form of the coop is arranged in accordance to the policy framework for cooperatives. That is, general assembly, supervisory and directors' boards. In addition to these, the coop establishes that the relation between FFs and the coop is to be coordinated through a management team and the representatives of producers' groups. This governance structure (see Figure 17) is embodied in statutory clauses that enable the division of powers between FF members, the board of directors (composed exclusively of coop members) and the management team (made up of contracted professionals, executors of the strategies defined by the board of directors). The board of directors, fiscal council, primary producers and logistics frequently interact with the goal.

The general assembly is the formal/legal deliberative space of exchanges and collective decisions occurring at the beginning of the year. The board of directors is in charge of convening and communicates the realisation of the assembly. To do so, it uses multiple communication channels, being most important at the moment of produce collection, courses and through the coordinators of productive groups. The assembly has the competence to decide on any matter of social or economic interest and is formed by all FFs with voting rights. In particular, the general assembly decides on the entrance of new

members, approves strategic plans of action and investments, and appoints members and official representatives of the other governance nodes. By statutes, decisions taken in the assembly are valid as far as the simple majority of participants approve them.



* producers of: grapes and pineapples; honey, sugar cane by-products and flours; banana; vegetables; breads and sweets; artisans and ornamental plants; grains and seeds and; organic foods

Figure 17 COOMAFITT governance architecture

It is worth noting that since 2011, at least 50% of FF members take part in general assembly's meetings, a percentage considered high in relation to the very low membership quote, geographical dispersion and other traditional FF coops. Managers, workers and extensionists also participate in the general assemblies that assist in conducting deliberative exercise. In spite of this rather formal space of governance, participants in the general assembly of 2013 argued that general assemblies are moments of festivity, democracy, sharing of group achievements and clarification of doubts:

“Now that I come to the general assemblies, it makes more sense for me to be part of the coop. Look, we became members because COOMAFITT pays a bit higher price. But, as you could see today, our production goes for people who do not have much to eat, like us sometimes, so I am proud to belong to COOMAFITT.” (Coop Member)

The board of directors is responsible for strategically managing the cooperative, being established with the goal of safeguarding the interests of FFs. It is elected at the general assembly for a period of two years, with the assembly consisting of a president, vice-president and treasurer, and six other members of the board, with three members and three alternates. In COOMAFITT statutes the board is in charge of creating the strategic link between the mandates of the general assembly and the management part of the coop. The board meets every first Thursday of each month. At this meeting, the administrative management issues are presented, discussed and addressed, as well as the guidelines and suggestions coming from the informal meetings between the members and group coordinators. Meetings are open to the participation of any coop member.

The fiscal council is elected annually and has the authority and the capacity to control and verify the coop's strategic plan of action and monthly accountancy reports. In addition, it should assure management is fulfilling its role according to the coop values and ethical commitments emerging at general assemblies. In doing so, it needs to have access to all the competent organs of the structure, being responsible for the verification of the obtained results of any other governance nodes. One important characteristic is that the council in the coop has deliberative and feedback functions as it participates in administrative and management meetings. In addition, it is in charge of summarising the control and analysis of the results, with recommendations that essentially seek to prevent financial mismanagements. Finally, the fiscal council must give advice to the general assembly, for the approval of the balance sheet, through a recommendation of the redistribution of gains.

It is important to note that in the everyday life of the organisation, the directors and supervisory boards act more as accountancy controllers. In fact, in monthly meetings the coop manager and treasurer hand out and discuss balance sheets to the board members. This financial situation sets the basis for the board to make decisions in relation to the investments or expenses needs prepared in advance by the manager's office. The balance sheets, investment approvals and minute books are open to any associate at any moment they visit the administrative office.

The productive groups were created at the coop with the goal of ensuring the participation of primary producers in everyday coop decision making. There are two ways in which the productive groups function. Formally, each productive group has a coordinator who is the person in charge of following planting and collection plans so that they do not substantially derail. Informally, producers of specified products gather in rural

communities to discuss problems, ideas and possible solutions to existing problems. A group representative chosen during the meeting takes them to the coop office or raises concerns by telephone. In turn, the coop manager and treasurer analyse them and if considered doable, they act and follow up the planned activities until they are completed.

By recommendation of EMATER, COOMAFITT instituted the departments of management and logistics to execute the strategies emerging from general assemblies/board of directors and attend to the demands of institutional markets. In particular, the manager is in charge of connecting the coop to institutional markets, maintaining relations with public procurement authorities and ensuring a smooth circulation of food from farm to consumer. The logistical coordinator is responsible for ordering, collecting, classifying and distributing the food according to the requirements passed on by the administrative sector or public procurement contracts. The following box breaks down the major functions (in relation to institutional markets) that could be observed during the field visits and the accompaniment to the different activities of each sector.

Table 9 External management roles

Attributions	
Management	Logistics
<ul style="list-style-type: none"> • Realise the strategic planning of the cooperative, safeguarding the coop core values. • Establish, strengthen and improve business relations with municipalities, • at the regular weekly meeting between coop treasurer and employees. • Elaborate and organise financial and investment information/reports to present to the supervisory board and then send them to the accountant. • Craft alliances with other coops or social-type businesses for the formation of competences or distributing food. • Organise events or courses according to the need of FFs and agree every year in the coop's strategic planning. • Control the coop cash flow, as well as the balances of bank accounts and applications to the different coop funds. • Elaborate, together with primary producers, the plantation, quality and collection plans. • Interact with the problems that occur in the cooperative's daily functional processes, including contact with FFs, other coops and extension services. 	<ul style="list-style-type: none"> • Ensure that the quality and quantity of food established in formal contracts and informal meetings with nutritionists are met. • Together with primary producers, organise and establish the collection and classification methods. • Manage stocks by keeping up to date the boxes, quality and amounts that enter and leave the distribution building, and maintaining cleanliness of installation and trucks/boxes. • Distribute the foods according to the schedules passed on by the administrative sector. • Organise the deliveries in a way that they can be tracked from producer to final destination. • Communicate the information about delivery processes at the regular weekly meetings (e.g., attending customer, associate and/or supplier phone calls). • Create the fastest and most convenient route for distribution and pickup of boxes. • Produce wax and transfer the inventory to the administrative sector.

As can be seen from Table 9, the coop has made efforts to divide the responsibilities between hard governance nodes and market interfaces. Here, the market interfaces are characterised by having a commercial profile and relevant institutional market competences. Indeed, the general manager is a professional in enterprises administration and the person in charge of logistics is an expert in supply chain management. Moreover, as the coop begins to supply new state institutions, the coop dedicates a single coop worker to personally visit, present coop products, elaborate offers and resolve problems emerging during the execution of the contract.

○ *Governance Processes*

In spite of the specialised knowledge and market competences, the management and logistic teams interact daily with the coop directives and ethical values. They work together in the same building and on many occasions the treasurer functions as a manager and vice versa. Likewise, any of them have the capacity to attend municipal requirements and the power to make decisions to resolve municipal demands. They also have two scheduled meetings every week: one with the board of directors and one with the treasurer. In these meetings, the manager and chief of logistics discuss, among other things, public contracts, institutional market and FF demands, basic investment needs, logistical challenges, plantation and selling plans, courses, etc. In turn, coop directives mobilise FFs' and productive groups' needs and wants to managers, to be included in coop strategies or in negotiations with municipalities and requests for state support.

This type of interactive governance approach is not exclusive to everyday decision makers and the general assembly. The structuration and coordination of the coop provision arrangement is equally visualised, planned and materialised in deliberative arenas. They emerge (and are maintained) in the precise exercise of organising collective action to supplying institutional markets while experimenting alternatives, accumulating the experiences of different productive groups, being open to receiving external advice, and having community leaders committed to the development of FFs. Below, I describe the functioning of the key interactive governance arenas in relation to supplying the Porto Alegre school food market.

🏠 *Arena 1: Coop Managers - Nutritionists*

As it is shown in the previous chapter, a team of nutritionists plans and organises school menus. This means that food quantities and quality for different preparations are arranged before the school year begins at the end of February. These menus are arranged by day, week and month. In general terms, menus are quite varied, including snacks and warm meals. They are traditionally made according to regional food habits recipes, seeking to increase the consumption of fruits and vegetables. Such conditions facilitated the entry of

COOMAFITT because it could potentially supply the quantity, type and quality of foods nutritionists were looking for. Moreover, the coop fulfilled one key requirement of the city school food programme – that is, FF cooperatives should be a social enterprise (as opposed to large scale commercial coops).

Despite these facts, the original planned menus obeyed the availability of food from the regional wholesale market (CEASA-RS), therefore, not necessarily from family farming local production or adapted to the region's product seasonality. In this context, the coop manager and nutritionist needed to design viable provision strategies. Initially, the coop suggested constructing a dynamic system of adapting school food preparations according to coop delivery capacity. In this way, dietitians, dining ladies and technicians could adapt menus according to the coop's weekly delivery programme. For this to happen, the coop manager on weekly basis visited (or called) the nutrition department and presented a good estimation of what the coop would be able to bring to schools the following week. Later and together with menu designers, the coop agreed when and where to take coop products.

This arrangement largely favoured the coop. It could collect from FF what they have at their disposal if the kind and quality were covered in the procurement contract. This collective supply-demand strategy took place for one semester. After that, it was discarded because it led to food unavailability and food waste problems at the school level. In fact, school consumption varied according to preparations while adjustments on quantities of FF foods were not possible. Instead of the city shifting again to conventional suppliers or the coop giving up, the manager of the coop and the nutritionist continued seeking alternative supply strategies benefitting both parties.

Such close collaboration led to a mutual understanding of supply and demand challenges. For the nutrition department, it gave practical insights into why traditional public bidding and conventional menu design strategies cannot be followed if the goal is to link local FFs. Likewise, dieticians became aware of FFs' problems in supplying schools, including procuring processes, delivery obligations, industrial quality standards and city payment practices. For the coop, on the other hand, interacting with the city school meal programme was conducive to realising that attending large institutional markets needed one alternative strategy that necessarily entailed to intervene at the production side and not simply aggregating primary production. In this context, nutrition department/coop interactions emerge as the medium by which the needs and wants of production, coop distribution strategies and consumption are discussed and adapted to each side.

In general terms, mutual adaptations are directed to generate room for manoeuvre for the relations' supply-demand to occur. There are two main joint strategies designed by the discursive arenas. First, the coop and the city negotiate expectations regarding quality and delivery routines. Once expectations are mutually agreed (e.g., size, presentation, delivery

hours), school teams and FFs are trained in relation to agreed quality and food safety specifications and mechanisms of non-acceptance in case they do not match. For example, a school posts placards in the cafeteria, informing which products come from family farms; school food staff participate in farm and coop visits to meet FFs and observe the means of production; or the coop organises videos and meetings with school food personnel to show and discuss coop values and products. In other words, coop-nutritionists' interactions make room for manoeuvre while requiring the coop and the city themselves to gain knowledge of each other's procedures and provision skills.

The second collective strategy consists of elaborating menus upon the harvest and cultivation plans constructed by the coop, while connecting the accepted quantities and qualities demanded during the school year to coop supply capacity. At the production side, such strategy entails direct intervention over the sphere of production. Thus, the coop's service to marketing FF products broadens to include multi stakeholder crop survey and planning. It is precisely from these events that the next interactive governance arena emerges.

Arena 2: Coop Managers - FFs

The first task in the construction of the coop cultivation and harvest plans was to survey and map those FFs interested in supplying school food markets and the type and quantity of products they produce. As a result, the coop was able to elaborate a seasonality table (see, Figure 18) from which interested municipalities can elaborate menus and public calls. The construction of the table involved productive groups, territorial coop assemblies and coop management teams. According to the coop manager, the seasonality reference is built with the participation of all members, involving several meetings for narrowing down the set of marketable products FFs are able to produce in the agricultural year. This exercise is carried out every year, especially in the light of the entrance of new members.

Upon agreeing products, quantities, quality and delivery times with the city of Porto Alegre and other municipalities, the coop management puts together orders. This information is to make the information public to all members and is distributed to productive groups and territorial commissions which put together a list of FFs interested in being part of the production plan. Such a survey is planned together with EMATER and there are usually at least three meetings before is handed to coop management. Next, coop management schedules meetings with these FFs and presents the expected demand for products and municipal requirements. In these planning reunions, FFs establish production compromises according to the demand needs.

Nº	PRODUTOS	TABELA SAZONALIDADE DA PRODUÇÃO											
		JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
1	ABACATE				x	x	x	x	x				
2	AIPIM	x	x	x	x	x	x	x	x	x	x	x	x
3	ABACAXI PEROLA	x	x	x	x								x
4	ABOBORA	x	x	x	x								x
5	ALFACE AMERICANA	x	x	x	x	x	x	x	x	x	x	x	x
6	ALFACE CRESPA ROXA	x	x	x	x	x	x	x	x	x	x	x	x
7	ALFACE CRESPA VERDE	x	x	x	x	x	x	x	x	x	x	x	x
8	BANANA CATURRA	x	x	x	x	x	x	x	x	x	x	x	x
9	BANANA MAÇA	x	x	x	x	x	x	x	x	x	x	x	x
10	BANANA PRATA	x	x	x	x	x	x	x	x	x	x	x	x
11	BATATA DOCE	x	x	x	x	x	x	x	x	x	x	x	x
12	BETERRABA					x	x	x	x	x	x	x	x
13	BROCOLIS COM FOLHAS				x	x	x	x	x	x	x	x	x
14	BROCOLIS PODADO				x	x	x	x	x	x	x	x	x
15	CENOURA				x	x	x	x	x	x	x	x	x
16	COUVE CHINESA	x	x	x	x	x	x	x	x	x	x	x	x
17	COUVE FLOR COM FOLHAS				x	x	x	x	x	x	x	x	x
18	COUVE FLOR PODADA				x	x	x	x	x	x	x	x	x
19	COUVE FOLHA	x	x	x	x	x	x	x	x	x	x	x	x
20	LARANJA CEU				x	x	x	x					
21	LARANJA SUÇO					x	x	x	x	x			
22	MARACUJA	x	x	x	x	x	x	x	x				x
23	MILHO VERDE	x	x	x	x	x							x
24	MORANGA	x	x	x	x								x
25	PEPINO SALADA	x	x	x	x								x
26	PIMENTÃO	x	x	x	x	x	x	x	x	x	x	x	x
27	RABANETE	x	x	x	x	x	x	x	x	x	x	x	x
28	REPOLHO ROXO	x	x	x	x	x	x	x	x	x	x	x	x
29	REPOLHO VERDE	x	x	x	x	x	x	x	x	x	x	x	x
30	TANGERINA					x	x	x	x	x			
31	TEMPERO VERDE	x	x	x	x	x	x	x	x	x	x	x	x
32	TOMATE GAÚCHO LONGA VIDA	x	x	x	x	x	x	x	x	x	x	x	x
33	TOMATE CEREJA	x	x	x	x	x	x	x	x	x	x	x	x
34	TOMATE CEREJA EMBALADO	x	x	x	x	x	x	x	x	x	x	x	x
35	UVA	x	x	x									x

Figure 18 Sample of COOMAFITT seasonality table

(Source: Coop archives)

Planning meetings are designed to form FF sub-groups according to what they intend to provide. Sub-groups are in charge of determining what each FF will plant and determining the rules of participation and market share. For vegetable suppliers, for example, every farmer must cultivate at least three different types. Likewise, it is agreed that farmers should plant twice as much as the cooperative aims to allocate in institutional markets. This is to comply with procurement contracts in the event of crop failure, withdrawal of a FF, or a new procurement contract. In case there are offers exceeding the coop buying capacity, the group establishes a production cap to larger producers and the coop management ensures that they do not monopolise sales. FFs also decided that payments to primary producers are done after the state institution disburses resources, following the presentation of FF invoices. For this purpose, the coop generates reports comparing the entries and sales made for each farmer during the harvest period.

During the plantation/harvest planning exercise, food prices are also jointly agreed. To do so, the coop-FFs have agreed to adopt a quality/price strategy able to compete with the strategies of conventional suppliers of institutional markets who buy fresh foods at the regional wholesale market or CEASA-RS. In this strategy, the selling prices should not be higher for those reported at CEASA-RS providing the quality remains similar. With this strategy, the coop aims to increase its institutional market share because on the one hand, municipal authorities base price paid to FFs on the CEASA-Porto Alegre price list, shifting conversations with procurement authorities from price considerations to the rights of FFs

to provide school markets; and on the other hand, access to new institutional markets represent new commercialisation options for FFs who otherwise would have to sell their products to middle-men.

The aforementioned external price strategy (coop-institutional markets) complements a novel price formation between the coop and FFs. In the first place, they agreed in a general assembly that prices paid should be determined during the plantation/harvest planning exercise. According to them, knowing in advance how much they could get for a unit of production is important when deciding how much to plant or invest. Previously, at the planning stage, coop management, the board of directors and the treasurer conduct a price analysis.

Projections and average annual prices are extrapolated from the price list of CEASA, Porto Alegre, the National Food Supply Company, seasonal prices offered to producers in the region's markets, and the production, logistics and taxes. Secondly, these prices are communicated and discussed during the elaboration of the harvest plan. In case FFs observe a significant mismatch between personal experiences and suggested prices, they ask for a revision and update of the price list before accepting production. Finally, the coop has created a compensation fund in which higher prices paid by municipalities should balance out the lower ones.

Arena 3: Productive Groups

Productive groups are communities of interest formed around marketable farming outputs. They seek to resolve common problems by breaking down their causes and proposing potential solutions to the coop directives, management and state agencies. These focus groups are the result of the evolution of the coop and the insistence of extensionists to take enough time to collectively study agronomic, territorial and market challenges. During the taking time strategy, several collective activities are carried out; for example, extensionists' explanation of participatory diagnostic tools, product scenery appraisal (covering the social, environmental and economic aspects this exercise aims to define farming systems, environmental strengths or weaknesses, infrastructure needs, destination of production); FFs' needs mapping (identifying historical determinants of product crises, reactions to crises, common problems, visualisation of the process of social differentiation); and ranking of priorities based on the demands raised in the communities, defining social, environmental and market aspects. These activities are complemented with debates, technical visits and excursions to other parts of the state.

As previously established, the first group (honey producers) pioneered joint diagnosis-prognosis exercises. In this context, the group understood its infeasibility under the perspective of food safety regulation. Likewise, the focus groups of sugar cane by-products,

breads and flours encountered that not having the recognition of food safety, fiscal documentation, tax competences and infrastructural limitations made it impossible to enter larger markets through the coop. Another group deactivated over time was the tropical fruits group (pineapple and passion fruit). FFs belonging to these groups concluded that with these products they were not able to participate in school food markets, since harvest periods coincided with school holidays or they had limited capacity to process them.

Alternatively, banana, vegetables, cassava, spices and organic focus groups decided that with small adaptations they could mobilise their production through the coop. For example, vegetable producers assert that their major strength is the large variety of products they have at their disposal for municipalities, yet, they have to secure a stable supply over the school months to be seen as a reliable group. To do so, they decided that each FF belonging to the group should plant at least three different kinds of vegetables to be agreed at the time of planning the next season.

Over time, variety and supply stability features have become the coop's flagship to reaching institutional markets. Spice producers determine they could assist in resolving a major problem for on-site prepared school meals – that is, to give regional tests to school menus – while offering diversification options for FFs. So, in addition to fresh foods, the coop provides to municipalities an alternative to processed spices or artificial essences. Cassava producers put in additional labour and decided to offer peeled, frozen and packed cassava in various sizes (a demand from kitchen personnel). As a consequence, they founded an artisanal processing association which organises the collection, processing and handover of the product to the coop.

Banana producers, the group providing at least 60% of the total coop sales, also introduced major innovations to the COOMAFITT product portfolio. Instead of offering bananas according to the national system of qualification¹⁰⁶ which requires packing bananas in 20kg cardboard boxes of determined variety, fruit length, size and peel colour, it delivers the product according to FFs' own system of qualification. That is, hard plastic boxes of 10kg, containing bananas of smaller size, different varieties and less uniform colour.

The new classification is also a product of group appraisal. In this arena, participants were convinced that the territorial specificities allowed them to produce a much tastier product, yet external appearance remained a barrier to commercialising bananas on larger scales. As a consequence, they decided to create a sample exercise in which the coop and municipalities were able to try out a viable alternative to industrial standards with school children and kitchen personnel. After initial success, banana producers decided to invest

¹⁰⁶ The Ministry of Agriculture establishes a universal classification of how products of plant and animal origin are to be marketed in the Brazilian system of classification.

in better infrastructure for maturation and boxes while the consumers' feedback resulted in better selection processes, allowing to each FF to pack, measure and stamp the producer's name at the production site. Currently, the coop's logistical unit only confirms or attests that individual FFs follow up that they collectively set in the qualification scheme.



Figure 19 Own system of Banana qualification

Finally, all producer groups continue to meet after collective appraisal exercise, either in formal coop reunions or in periodic meetings to (re-)examine the process from production until delivery to the final consumer. In practice, these debates are at the core of the coop governance approach since they are essential to planning future investments, organising production, defining classification strategies, coordinating collection strategies or marketing logistics. In other words, while the coop relates to municipalities as one entity, the goals, trajectories and strategies are constantly shaped in productive groups. Likewise, it cannot be assumed that institutional market access strategies are only the result of committed coop managers. It must be emphasised that the coop market offers are in fact the results of the agreements (and internal conflicts) that are constantly mediated and dialogued between FFs, their groups and the coop (see Figure 20).

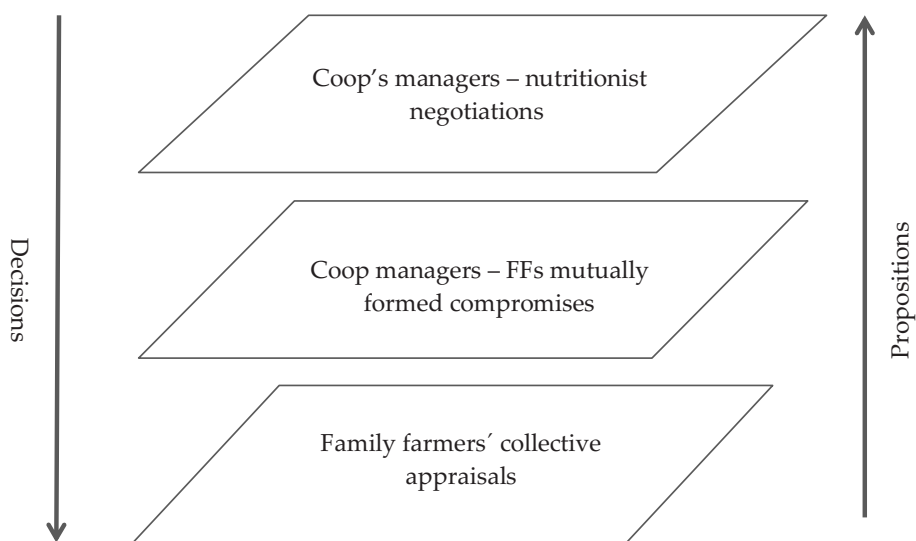


Figure 20 COOMAFITT mutually constituted interactive governance arenas

ECOCITRUS - The Citrus Producers Cooperative of Vale do Caí (*Cooperativa dos Citricultores Ecológicos do Vale do Caí*)

ECOCITRUS is a remarkable case of integrating 98 family farmers and 29 individual associated workers into a project of small-scale biodynamic¹⁰⁷⁻¹⁰⁸ production of 2,500 tons of citrus (oranges, mandarins, guava, and lemons). In doing so, the coop aggregates primary production with the purposes of adding value through the making of juices and essential oils. In addition, the coop uses its organic waste and other organic waste from nearby enterprises for the production of compost and biogas. They are later reintroduced into the primary production and other energy dependent activities, resembling a sort of circular economy (see Figure 21). In total, ECOCITRUS has more than 200 direct customers for added value products, creating annual revenues of about R\$ 10 million.

¹⁰⁷ According to Turinek et al. (2009 p, 146), biodynamic agriculture is a farming system "...striving for diversified, resilient and ever-evolving farms,[...] encompassing practices of composting, mixed farming systems with use of animal manures, crop rotations, care for animal welfare, looking at the farm as an organism/entity and local distribution systems, all of which contribute toward the protection of the environment, safeguard biodiversity and improve livelihoods of farmers". However, coop farmers refer to their production system as agriculture of ecological basis since they aim to maintain synchrony and synergy with their ecosystems through the replacement of monocultures and obtaining the inputs needed for the production healthier products from natural sources.

¹⁰⁸ According to the coop archives, FF members of the coop are from the region and have practiced citriculture since the mid-eighties. In this decade, the region became the largest producer of citrus in the state of Rio Grande do Sul. The majority of FFs cultivate over 5 ha and the sales of citrus fruits represent the vast majority of their income (R\$ 1,370 monthly). Nevertheless, they cultivate other products for self-consumption or for local organic markets.

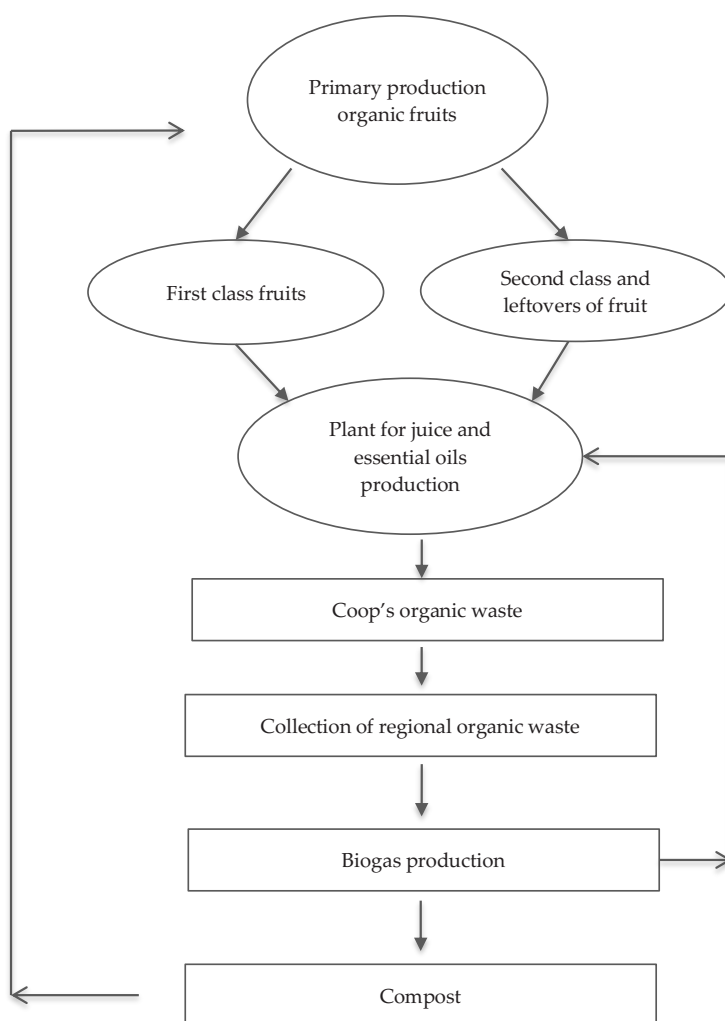


Figure 21 Representation of ECOCITRUS' main activities

Every month, ECOCITRUS supplies 18,000 litres of juice (bergamot, orange and grapes) and 17 tons of fresh fruits (bergamot and orange) to more than 350 primary and secondary schools, in the municipalities of Montenegro, Porto Alegre and another 14 cities in the state. This market represents about 20% of the total production of the coop's fruits. The coop accounts report that entering into PNAE did not significantly change the income of FF, yet it strengthened the coop's relation to other markets, until the extent the coop become far less vulnerable to the strategies of large buyers or supermarkets. Additionally, FFs argued that the benefits of participating in PNAE do not stem only from the economic side. Rather, it is the option to contribute to the health of pupils and local development that stimulates the continuous participation in institutional markets.

These guiding principles have been present since the coop's foundation. Indeed, the coop's overall aims are to contribute to the quality of life and to the sustainability of the region. According to coop managers, this means to collectively govern the initiative by promoting participation in decision making, solidarity between members, transparency in actions, and responsible management of productive and value-adding processes which are designed to be ecologically adequate, socially just, and economically viable. To exercise these values, the coop seeks to control, organise and coordinate the entirety of the supply chain, from input production to direct selling. More recently, the coop has enlarged its sustainability goals towards contributing to territorial development. In doing so, the coop's participation in PNAE has been fundamental in contributing towards the reframing of the initial goal of producers' cooperation towards acting together with social consumption aims.

Interviewed FFs reported that belonging to the cooperative has been a vehicle for increasing income, reducing production costs, the guarantee of commercialisation, enrichment of agroecological based production competences and respect for the environment. These benefits certainly match the major motives of FF participation in the collective action project: need for unity, solidarity and cooperation within agroecological producers; the guarantee of sale of production at better prices; and access to some production inputs and technical assistance, experience sharing platforms.

Together, coop values and FF participation might indicate that the coop core governing values are to meet the needs/wants of FF members without endangering the resource base upon which they depend, and not its own (or managers') economic expectations. In turn, the coop constructs necessary infrastructure and participates in alternative food networks to mobilise production for consumers, while building up agroecological and market competences. These claims are further clarified in the following paragraphs.

Emergence and Construction of ECOCITRUS

The history of ECOCITRUS began in 1990 when FFs reinstalled an old association of citrus growers in the region: Harmonicitrus. The association aimed to market products from the region's FFs. Its reactivation was the result of the participation of FFs from the Vale do Cai¹⁰⁹ in an international cooperation project named PROREND¹¹⁰ (pro-income). In addition, to encourage the organisation of collective devices through PROREND, FFs could have

¹⁰⁹ This region is made up of several municipalities (among them, Alto Feliz, Barão, Bom Princípio, Feliz, Harmonia, Montenegro and São Sebastião do Cai), whose agricultural FF base is composed of several small properties, with an average area of 8 hectares.

¹¹⁰ PROREND is the name of a rural development programme conducted between the governments of Brazil and Germany. Initially, it aimed to strengthen low income FFs through engagements of decentralised municipal administrations, protection of the environment and vocational training in productive projects. With time, the project focused on methods for enhancing small property productivity and the organisation or articulation of FF associative forms.

access to financial incentives, legalisation of property rights, and technical support, including visits to other farms and citrus industries. Through Harmonicitrus, FFs began to question the conventional citrus farming and commercialisation styles and discussed alternative models. According to one of the founders, the discussions were prompted due to the high requirement for pesticides and fertilisers in already degraded soils and high levels of regional pollution because of the intensive presence of agro-industries in the region.

Nevertheless, it was during two of the field visits that FFs decided to form a study and discussion group in ecological agriculture. In these visits, FFs came to realise that on the one hand – and contrary to São Paulo where producers hired external workers for the application of pesticides – they were required to carry out this activity, but their health problems would be more likely to increase over the years to come; and on the other hand, in a second visit to the Biodynamic Development Institute and the Association of Organic Agriculture, FFs got to know that in the nearby municipality of Ipê there were instances of FF already producing fruits without agro-chemicals and directly selling to consumers in the city of Porto Alegre.

Within Harmonicitrus, the realisation of these social facts was conducive to the formation of a group of Ecological Agriculture advocates (Uriarte et al., 2013). Group participants then began to actively participate in discussions with other farmers and beekeepers of the municipality of Montenegro, as well with the regional extension agency – EMATER-RS. The work led the group to become increasingly closer to the activities that were being developed by non-governmental organisations such as Gaia Foundation and the Center for Ecological Agriculture of Ipê.

Being more assured that another kind of agriculture was possible while tackling marketing, health and soil degradation problems, in 1994 the discussion group formally established ECOCITRUS. The first collective action project of ECOCITRUS was the organisation of a composting plant where the organic waste of two agro-industries would be collected, processed and the final product distributed among 15 founding members. In addition to lowering the fertilisation costs, the discussion group diagnosed that FFs' transition to biodynamic agriculture would simply be unattainable insofar as they could not find a stable and reliable source of compost for their sandy and degraded soils.

As a potential solution, they proposed collecting organic waste from many agro-industries of the region that were inadequately disposing of their organic waste. Such an initial venture was technically, administratively and legally complex, leading founders to seek financial resources, finally granted by the German development agency Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

They also requested technological support at universities and extension agencies. In addition, FFs began to look for those agro-industries with the capacity to provide enough organic waste. In doing so, the coop established an environmental alliance with a company producing tannins (TANAC).

The alliance with ECOCITRUS freed TANAC from the problem of inadequate waste disposal and helped to structure the association and its composting plant. Initially, ECOCITRUS rented a terrain, and contracted and put at its disposal the drivers for TANAC trucks to take the products from the agro-industry to the compost plant. Once the compost was made, ECOCITRUS sold it to its members to make money to pay the fixed costs of composting. For the founder members, this alliance granted the economic success of the coop:

"TANAC believed in our small organisation, in our potential. We were mutually benefitted. We solved TANAC's organic waste problem and we obtained enough compost to fertilise our fruit trees. The legal problems and expenses TANAC had with drivers and with fuel passed to us."

(Founder Member)

Once the partnership with TANAC was successful and ECOCITRUS was legally recognised as an organic waste disposal enterprise, more regional agri-food companies became interested in ECOCITRUS's services. As a result, ECOCITRUS linked additional FFs into the project, which in 1998 grew from 15 to 43. This enlargement was conducive to changing its legal form – from farmers association to a cooperative. Today, ECOCITRUS collects organic waste from over 100 regional enterprises, providing about 45,000 tons of waste. The coop charges companies for this service because in Brazil they are environmentally responsible for the management of this waste until the final destination. This income finances the whole process of composting and supplying free compost to 98 family farms. The compost and other liquid fertilizers not required by its members¹¹¹ are later commercialised at a very low value to FFs interested in making the transition to ecologically based agriculture:

"...the coop charges a symbolic value for a non-member farmer, costing, on average, less than R \$ 30.00 per cubic metre for farmers aiming to shift from conventional to agroecology. It is not a business for the coop, yet it allows the organic waste to circulate from the agro-industrial sector to producers interested in producing ecologically"

(Compost Plant Manager)

¹¹¹ According to the plant manager, coop members do not need any more large quantities of compost, since through time the soil quality has substantially improved.



Figure 22 ECOCITRUS compost plant

(Source: the coop)

Alongside the formalisation of ECOCITRUS as cooperative, members of ECOCITRUS began the project for the commercialisation of primary production, including fresh fruits and leafy vegetables. This was in response to a major demand of primary producers – that is, taking out intermediaries from the citrus chain. General assembly minutes, for instance, show that for many of the FF members of ECOCITRUS, receiving compost was not enough reason to remain in the coop as selling directly was seen as the only option to remain in business. The coop therefore acquired one abandoned packing company, comprising a deposit of 1,900 square metres, one administrative building, two cold rooms of 700 cubic metres each, and a citrus orchard of 17 hectares. This investment was fully paid with its own resources, coming from the compost business unit. In spite of the fact that ECOCITRUS was increasingly able to sell the FFs' fruits, the revenues generated barely covered the marketing costs:

"In Brazil it is difficult to add value to fresh fruits. There are very few people who are willing to pay more for organic fruits. Some fruits we sold in the organic markets, but our production was just too large for that. So, most of the time we end up selling our fruit as conventional." (Coop Manager)

In addition, the coop did not escape from the price volatility affecting organic and conventional producers. Hence, the amount paid changed throughout the harvest and throughout the years the tendency was to receive lower and lower prices. According to a leading founder member, these factors result in both a disorganisation of the producers and a sort of disconnectedness between the coop ideals to support organic production and FF livelihood needs. Nevertheless, lessons learnt from the collective struggles during the

formation of the discussion group, transition to agroecology and establishment the compost plant meant that FFs were aware that perseverance was the key to success at acting together. Then, the coop members did not give up on the initial compromise to organically cultivate and market as a group. One consequence was that they began to discuss alternatives to add value to primary production, including the attainment of the Fair Trade certification and the production of juices and mandarin oil.¹¹²

For some years, they processed fruits in the juice industry of the region and essential oil plant in the state of São Paulo. Nevertheless, the coop's core product remained the selling of fresh fruits. In 2008, for example, about 15% of the total production was sent to the juice factory. In this context, the coop diagnosed that in the light of high costs of packing, lower acceptance of concentrated juice in Brazil and the limited capacity to use organic certification were enough reasons to invest in their own infrastructure. Members also argued that when hiring out processing activities, the coop would lose control over the food chain while its reputation could be compromised. In addition, in 2007-8 the coop made an analysis of the economic viability of opening its own plan. The study found that it would be a profitable business which could generate extra income for FFs, providing the cooperative remained in receipt of the income from the composting plant.

In order to gain more control over the fruit chain and sub-products of producing premium fruits, the coop invested in the construction of a juice and oil production factory. The total investment amounted to approximately R \$5 million, out of which the coop secured 60% through its own means. The additional resources came from the Ministry of Agrarian Development (8%) and the Regional Bank for the Development of the South or BRDE (32%). It is important to note that the company was able to finish up the factory before the bank disbursed the resources; this because it built most of the unit in alliance with companies of the region. While this reinforced the coop's compromise with regional development, it also showed that the reputation of the coop extended beyond the FF sectors, reaching manufacturers and state institutions. However, a monthly payment to the bank and higher maintenance costs means those primary producers for the initial years cannot profit from the ownership of production.

The factory began functioning in 2012 and was officially inaugurated on November 8, 2013. Since then, the majority of the members' produce has come to the factory and has the capacity to accept an additional 400 FFs producing organic fruits or about 20,000 tons of mandarins and oranges. Internal assessments show that the coop was able to increase the paid price of premium fruits to primary producers by about 30%. The coop also doubled

¹¹² The essential oil of mandarin is used in the perfume industry, aromatherapy and in the production of cosmetics. It is traded for a high value in the international market, reaching over USD 100 per litre of organically produced oil.

the price paid for fruits resulting from the thinning¹¹³ of trees and aims to process five thousand tons of fruit resulting from the thinning of trees for oil.



Figure 23 Citrus processing unit
(Source: the coop)

Before the construction of the plant, primary producers used to sell the products of the thinning to companies in the region for a very low amount. After all, they needed to dispose of these fruits outside of the farm (or burn them) to avoid the spread of pests or diseases. The coop's essential oil plant, then, transformed a farmer's management problem into a business opportunity which in turn increased its income. Together, juice production and the extraction of oil has reorganised the price structure of the chain and put a larger portion of processing and commercialisation gains into the primary sector.

In addition, the coop decided to buy fruits from other FFs (and support the formation of other FF cooperatives) at the same price paid to members and secured the purchase of food to new agroecological farmers. In part, this pays the plant's operational costs, yet an important value to share infrastructure is to contribute to territorial development: *"the real values of cooperation cannot rest only within the members as they should be extended to FFs in more need"* (Coop Manager). Thus, the view of community benefits, either for production systems interactions or for the social ties members have across time and territory, is also part of the principles used in the process of decision making.

With the operation of the new plant, the amount of organic waste exponentially increased. In addition, the largest state chicken egg producing company (Natuovos)¹¹⁴ showed interest in the waste management service of ECOCITRUS. Then, the coop retook a study made in 2005 with the purpose of updating the environmental license. This analysis indicated the viability of the composting plant to also produce biogas if the coop were to

¹¹³ Thinning is the practice used in a range of tree fruit, including citrus, with the purpose of pest management and control and to improve the size of the remaining fruits.

¹¹⁴ Company information available at: <http://site.natuovos.com.br/pt>.

invest in an industrial biodigester, costing at least R \$ 20 million. As the coop did not have this large amount of money, the company that made the consultancy offered to put up this money in return for the property rights of the gas production. By that time, members of the coop cautiously refused this proposition because the consultancy company's offer did not value the coop's reputation and brand. Moreover, they would lose autonomy in decision making. However, with the arrival of Naturovos, the coop unarchived the project and established an alliance to process 2,500 tons of manure per month. In 2012, the coop opened the bio-methane plant with its own resources by re-engineering the compost plant.



Figure 24 Biogas plant
(Source: the coop)

Initially, the coop intended to produce electricity from the gas, however technical and financial constraints hindered the idea. Over time, the coop began to produce compressed gas for the fleet of Naturovos trucks and its own cars. In addition, the coop developed a project to give visibility to its new product. It provided free bio-methane for about forty cars in the municipality of Montenegro, including some belonging to FFs who decided to shift from gasoline to gas engines.

However, from a financial point of view, the costs of commercialising the product beyond the coop's doors would need significant investment. The members did not authorise such investment until the coop could find a reliable client to sell it to. This client must be the state since regulations permit it as the only agent authorised to commercialise this source of energy.

Up until today, the state has been unable to purchase gas from ECOCITRUS since public auction for bio-methane procurement faces numerous problems. As a result, coop directives have kept the structure as it is while improving the quality of the core process when producing gas: compost. In association with universities, the coop assess that with the anaerobic process of production of bio-methane, its compost is of higher quality. Nowadays, the commercial sector is seeking new clients interested in it.

ECOCITRUS and PNAE

With the organic certificates and established supply capacity, the coop was able to participate from the very beginning of public purchases in the city of Porto Alegre. Nevertheless, PNAE was not the first institutional market in which the coop sold its products. For about six years the coop linked primary producers to PAA in the nearby municipalities. Indeed, ECOCITRUS was the second farmers' association in the state of Rio Grande do Sul providing food to vulnerable consumers under the Zero Hunger programme. It distributed juice and fresh vegetables to over 100 charitable institutions and state schools between 2004 and 2009, representing about 40% of coop gross sales.¹¹⁵

This meant that PAA enabled the transition to agroecology, since FFs were able to sell other foods (in addition to citrus fruits). In addition, agroecological citrus farming styles need to use poly-cultures to both compensate lower levels of productivity by generating additional farming outputs, and balance the particular agroecosystem needs. PAA also represented an alternative to what were the main clients of the coop. Indeed, prior to this, PAA supermarkets accounted for 85% of the coop sales. As a result, the creation of PAA reduced the dependency on single buyers, singling the pursuance of the coop's value of strengthening FFs' autonomy. In addition, the coop participation in PAA is considered formative of institutional market competences, since: *"before PAA the state agencies were mostly interested in how to produce more and not in how we could sell more"* (Coop Manager).

Equally interesting is the fact that before the school food reform, ECOCITRUS was already supplying the schools and hospital in the municipality of Montenegro.¹¹⁶ Since 2006, this municipality has bought juices, fruits and vegetables for school meals. Initially conducted through the general procurement law, the coop and nutritionists in the municipality were able to advance health and territorial development concerns to link local organic producers to school meals. While the coop did not obtain premium prices for being an accredited

¹¹⁵ Before PAA, the main commercialisation channel was direct selling at weekly organised open markets in the nearby municipalities and the coop could only sell 5% of FF produce at these markets. Paralleling the access to PAA, the coop also began to supply supermarkets with organic products but at the price of conventional fruits (Zaffari, Walmart, Zona Sul).

¹¹⁶ The coop also participated in conventional public bids in the cities of Caxias do Sul and São Leopoldo.

organic supplier, lower prices did not function as a deterrent for the coop to stop supplying schools:

“...children that go to municipal schools are sons, daughters, siblings or the children of friends. I think that it would be difficult to accept that they should eat food that might have pesticides or lower nutritional attributes when we could help to qualify school lunches.” (Institutional Markets Manager)



Figure 25 Brunch time with Ecocitrus juice

Then, when the city of Porto Alegre mobilised resources to enact the school food reform, ECOCITRUS had both the supply capacity and the experience to deal with institutional markets. These particularities entail significant aspects that are relevant to mention before entering into the workings of linking coop to school meals: first, the coop had already installed most of the necessary logistics to supply large markets with quality products, including procedures for the selection of fruits at farm level; second, in combination with the very low perishable characteristic of juices and the fruit trees' perennial characteristics, the coop had an in depth knowledge of how much the coop produces or who produces what and when;¹¹⁷ and third, the coop was familiar with the institutional market's bureaucratic procedures and the importance of nutritionists when enabling links between local FFs and public markets.

¹¹⁷ In addition to informal knowhow, primary producers hand over an annual list containing which products, in what quantity, and in what time they estimate to be producing. The coop systematises this information and makes an aggregate to assess the coop's capacity to fulfil orders coming from different clients or attend new demands. Furthermore, the coop has producer groups clustered by farm distance that meet twice per month. In these meetings, farmers are asked to report any production irregularities or inconveniences to fulfil the year's plan.

Furthermore, the coop is a key stakeholder in a regional programme for the expansion of organic school gardens by placing an experienced organic producer at the disposal of the schools and offering bio-fertilizers at no cost. In addition, school children are entitled to visit and work in a member's farm once per week. For the coop, participating in these programmes helps children to make better choices in relation to food and health:

"It's a very nice project. We'll provide the biodynamic compost, which is a very different fertilizer. What does it do? It heals the land, animals and people's health. So, if children understand and practice biodynamic farming in school or houses, they can live differently." (Coop Member)

While the previous participation in institutional markets is relevant to explain the coop's readiness to participate the Porto Alegre school meal programme, it is also true that a large institutional market is different from PAA or supermarkets and that the city's school food principles remained unknown.

To overcome these barriers, the coop decided to open a dedicated commercial sector. Since 2011, two coop members have been in charge of: establishing and maintaining contacts with menu designers (or other public agents like school directors); preparing and presenting offers; distributing responsibilities and follow up compromises between primary producers, processing plant, sales and distribution sector personnel; submitting invoices and other fiscal documents to collect public payments; address and resolve doubts or complaints; and coordinate actions with other FF suppliers to collectively distribute foods in the same trucks.

These adaptations have been conducted in deliberative spaces where the city menu designers and the coop aim to match supply-demand needs. In fact, before the public call is launched, menu designers and the institutional market manager meet in order to establish the quantity, quality, menu costs, harvest periods and type of citrus, delivery options, minimum product characteristics or presentation, and coop and school programme values. Once these processes are complete, the person in charge of institutional markets takes the potential offer to the coop managers and FF groups to decide the viability of the sale project. Then, coop and menu designers agree on price and quality that are maintained without alterations until the offer is officially opened in the FF public auction.

For the school food manager, ECOCITRUS is part of the school food suppliers offering both healthier (integral juices) and sustainable products (organic). The city tries to guarantee these products for school children each citrus season and the price can adequately fit with the budget. The city can also easily store and conveniently serve the juice without making adaptations to the kitchen infrastructure or creating recipes. Furthermore, the coop conducts acceptability tests in some municipalities to ensure the products' taste and

presentation are well accepted by pupils and dining ladies. For the city nutritionists, these practices help to adapt pupils' taste for healthier food habits. Nevertheless, due to the price, the city can offer organic juice only sporadically, mostly during festivities.

With time, closer collaboration tends to be underestimated and, in some cases, deemed unnecessary for both parties. For the city, the coop's supply reliability and robust compliance with public requirements are indicators that the coop does not need assistance for elaborating public calls. For the coop, its supply capacity, kinds of products and internal governance mechanisms can satisfactorily guarantee the needs of the municipality without the need for direct contact. Nevertheless, for one year the coop stopped supplying the city school food market due to changes in the conditions of the public call and not compliance with the new municipal requirements¹¹⁸ at the moment of presenting official offers. Since then, at the beginning of the school year, the coop continues to dialogue with school food authorities to ensure that procurement processes run as smoothly as possible.

Finally, the coop decided not to directly distribute juices or fresh fruits. For fresh fruit products, the coop delivers fruits together with COOMAFITT¹¹⁹ and for juices, the coop hires out the service of the food service cooperative DISTRASUL. According to the general manager, this strategy can help to ensure that the coop's need for external labour remains low and reduces machinery maintenance costs. Overall, however, it follows the pattern of the coop development and governance trajectory as nicely summarised in the following quote:

"Here we trust more on cooperation and solidarity than in rivalry. You can ask farmers, they see each other as colleagues or friends; with other partner cooperatives, you can talk and see that we preferably come to mutually benefitting accords before looking to earn more at the expense of any of us." (Institutional Market Manager)

ECOCITRUS - Governance Approach

The coop counts with a well-defined organisational structure, with different levels, legal responsibilities and specific sectors, including administration and operational segments (see Figure 26). In 2008, the cooperative made changes to its organisational structure, differentiating the types of associates, such as the primary producer members and the working members. The latter hold administrative and operational positions in the agro-industry, compost unit and bio-diesel plant. FFs are not formally employed and subsidiarily respond to his/her commitments up to the value of the subscribed capital (R\$ 150). There are also formal employees who do not have the right to vote and to be voted,

¹¹⁸ Regarding FF papers, invoices and payment methods.

¹¹⁹ This coop is later examined in this chapter.

as well as the other obligations, rights and duties that the cooperative has according to the ECOCITRUS statutes.

Within the legal and statutory requirements, the general assembly meetings take place at the end of the year. In these official meetings, coop members are presented with the management reports and the opinion of the supervisory board comprising general balance sheets, statements of surpluses (or losses), allocation of investments, deduction of instalments for statutory funds and redistribution of net gains among members. In addition, there is the election and official installation of the boards of directors and the supervisory body whose lists are registered at the cooperative's secretariat up to five days before the meeting. Any decision taken in the general assembly requires two-thirds of members' votes to be valid.

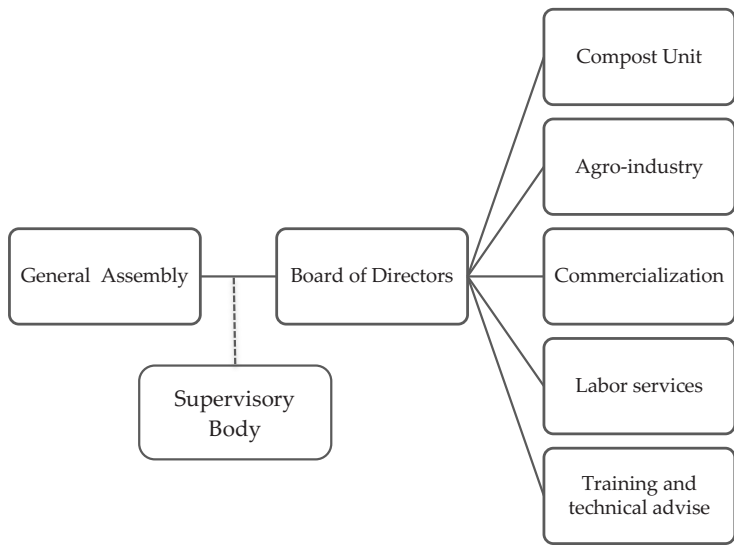


Figure 26 ECOCITRUS Governance Structure

With regard to coop management, the board of directors, composed of four associate members and elected at a general assembly for a term of four years, governs the coop development plans. In addition, it is in charge of: designing and implement standards, guidelines and work programmes for cooperative operations and services; establishing the organisational and administrative structure; determining labour norms of employees; and establishing conduct norms, sanctions and penalties to be applied due to statutory violations and precepts recognised in the encompassing ethical values and social and environmental responsibilities.

A president, vice president and secretary compose this board, jointly responding to potential losses resulting from their administration. Nevertheless, it is the president who

directs and supervises all activities of the cooperative by: drawing up a yearly plan of goals and activities; convening formal and informal meetings; representing the cooperative to external parties; signing contracts; and responding financially to the cooperative. In addition, this board holds a closed monthly meeting with each of the operational groups to discuss their functioning, goal accomplishments, weaknesses, strengths and development opportunities. For the extension services agent, this traditional business strategy reflects the conservative and orthodox nature of the coop's economic decisions. The board of directors is also in charge of analysing and approving the admission of new members. It is established that only FFs farming within the area of the coop's action (Vale do Cai) can request access to it.

More importantly is the fact that the board of directors is in charge of establishing and managing the coop's relations with key stakeholders, civil society organisations, interest groups and government authorities – a task that has proven to be vital for the coop's development, since value-adding projects and access to markets is often conducted in partnerships. Here, of course, the work of passionate FFs and social entrepreneurs has been fundamental to the emergence and evolution of the coop.

The members of the supervisory board, made up of three FFs, are responsible for the assiduous and meticulous supervision of operations, activities and services, through the analysis of fiscal and accounting books, operative groups, documentation, and balance sheets, among others, as well as verifying compliance and irregularities with plans and decisions administrative procedures. In practice, the supervisory board assesses the working of the coop director and the coop's treasurer by overseeing accountancy reports and participating in monthly meetings between the managing board and group coordinators.

For the operation of operative units, the coop hires professionals who work in the composting plant, agroindustry and technical services. They include secretaries, administrative assistants, financial assistants, machinists, general services and truck drivers. However, the majority (90%) of the workforce used comes from the members of the coop. Moreover, in times of production picks, which occurs mainly in the months of May to November, some members assist in the classification of fruits, drivers or in any other necessary tasks, receiving a salary per hour worked. In this way, FFs can have off-farm income while being able to reconcile farming with coop activities. Such occurrence is normal and considered to be a core solidarity value at the level of the coop:

“At the beginning of the coop, I worked three years in the composting unit, driving a truck. At home I did all the deskwork [...]. Each of us did what we had some aptitude for. If we, ourselves, did not do them, we had to pay from our salaries [...]” (Coop Founder)

Each operative sector also has a coordinator. The coop chooses this coordinator from the pool of FFs who have been working within the sectors and across different tasks, from management to handwork. In this context, the coop assumes that knowing and understanding the different cooperative processes and their interrelations are managerial assets. Then, the distribution of coordination positions is defined on the basis of expertise, skills and results.

Coordinators of operative units make most functional decisions, relating the day-to-day activities to the expected outcomes. Decisions beyond these are forwarded to the coop president who decides whether it should be taken to monthly meeting or be decided right away by the members of the board of directors. This is to say that at more operational levels, decisions are taken based on the routines, but steering efforts that are unusual should be collectively discussed. For example, the coop continually and collectively elaborates strategic planning exercises between farmers, operative groups and managing boards.



Figure 27 Participatory planning exercise
(Source: The coop)

Other space to collectively deal with FFs' or coop's dilemmas and plan joint action are monthly meetings – what they called assemblies, yet they are not legally or statutory required. Such informal meetings occur every second Thursday of each month and are open to all associates. According to the coop records, up to 75% of members participate. Over the years, this participatory arena has been conducive to the mobilisation of FFs' heterogeneous demands, including broadening the services. access to inputs, technical assistance, formation of competences, and access to public policies like PRONAF, PAA and PNAE.

In general, participants conduct collective communication activities like information gathering and sharing, brainstorming, diagnose-prognosis exercises and ranking of preferences whenever a decision should be taken. In particular, members plan their yearly and seasonal activities. For citrus, members estimate cultivated areas, fertilisation, and pest/disease measures and production outcomes, which are to be monitored monthly by the technical department. In relation to other crops, farmers discuss and survey the type of products to be marketed. These outcomes, in turn, become the input for the processing plant and commercial units to seek selling contracts. It is through these meetings that co-dependent actions between the coop and FFs are put into motion through a jointly agreed workable plan of action.

Finally, in case during the meetings participants determine the need for capital investments or changes in statutes, suggestions are collected and taken to the general assembly for approval. For other suggested actions, the board of directors directly takes proposals from the group and sets a new trajectory. This governance mechanism, however, is not new in the cooperative. In fact, since the coop's emergence the management has taken a participative approach, with the purpose of meeting common objectives rather than individual aspirations. Likewise, it is argued that the constant exchange of experiences has contributed to both resolving practical problems of agroecological farming and raising awareness of the political, economic, environmental and social aspects of citrus production (Muradas and Kessler, 2013). In turn, this has strengthened FF engagement with the coop values and its resemblance with the emancipatory aspiration of FFs when joining the coop, either for market, environmental, health, social or agroecological motives.

Coordinating Coop-Family Farmers' Co-dependent Activities

As previously stated, from the formal and informal governance arrangements, members and managers identify how to collectively govern the initiative. In practice, the coop seeks to coordinate members' activities in a way that is simple and straightforward. To do so, the coop has devised three interrelated governing practices to link FFs to the coop services: formalising coop and agroecological farming processes through certification; the formation of competences inward the coop and outward to FFs; and specific procedures for the marketing of FF products.

External validation of coop procedures through obtaining multiple certificates

The coop has a wide range of certificates (see Figure 28), most of them validating (as opposed to changing) what is already practiced. The coop certification processes began in 2006, when ECOCITRUS sought to participate in differentiated markets. In this year the coop officially applied to obtain the *Fair Trade* certificate with the goal of attaining higher returns from exporting juice concentrate to Germany, Italy, England and Belgium. Clients

in these countries paid a premium of about 30% of what was paid in the internal market. This market became an alternative for the coop because in contrast to the traditional pasteurised juice (offered during harvest periods) and reconstituted organic citrus juice (offered during off-season periods), concentrated juice could be sold all year long. In addition, they are highly competitive in the internal market due to the large production of citrus in Brazil.¹²⁰



Figure 28 ECOCITRUS certificates

(Source: Coop website)

Acquiring this stamp did not involve making major changes to the way the coop buys products from its members or keeps records. On the contrary, since the formation of the coop, one prime goal was to directly sell their products without the intervention of intermediaries. As a result, prices paid to members were fairer than those that FFs could get in wholesale markets. FFs also point out that in addition to receiving fairer prices, the process of price formation is very transparent as they get to know all contracts with clients and commercialisation or processing costs during monthly reunions. In addition, FFs claim that they are not aware of payment delays and on many occasions, revenues of the compost plant are used to pay workers when fruit prices are too low to cover production costs. Finally, ECOCITRUS is regionally known for raising selling prices at the regional level, since demand for fairer prices paid to citrus processors has risen since ECOCITRUS began to buy fruits from non-members.

The coop was also the first organisation of the state to be certified by the IBD¹²¹ institute in the early 2007 as an organic producers' cooperative. This process began in the early 2000s when family farmers in the process of transition to biodynamic agriculture sought technical

¹²⁰ Since 2007, Brazil has been the world's largest producer of citrus fruits.

¹²¹ IBD is the largest certification body for organic and biodynamic agriculture in Latin America. In addition to having its own stamp, it is also licensed to issue, whenever the conditions are met, national and international certifications like Orgânico Brasil, Demeter biodynamic, IFOAM, etc. The IBD-Brasil indicates that ECOCITRUS is following the sanitary, environmental and national labour regulations and that this guarantee extends to suppliers of farming inputs equally certified by IBD.

assistance. In doing so, the coop established a partnership with IBD for about three years to assess and accompany the process of conversion from conventional to agroecology. In doing so, both IBD generate needed knowhow to certify agricultural activities in Brazil, and the coop developed procedures to ensure it acts according to international standards.

Moreover, this partnership was conducive to replacing its more artisanal record keeping methods to fulfil legal requirements with a more entrepreneurial style. As a result, membership, financial, administrative and participatory management archives have been used for over six years for the evaluation of the results and mechanisms of doing and to ensure transparency of the actions of the board of directors. Then, when the coop applied for Fair Trade certification and the official IBD, the traceability systems were already in place.

In this context, producers and the coop developed certification procedures for the IBD to record what they routinely do during the week, the month or the season. In doing so, the coop developed a biodynamic calendar which over the years has become the source of information to formalise the manuals of good agroecological practices which farmers are required to follow in order to remain under the umbrella of the organic certificate. In return, the IBD has certified that the coop follows Demeter and IFOAM standards. For the internal market and although the IBD certificate can be used for domestic products, the coop decided to work with the participatory organic certificate of the ECOVIDA¹²² network. This is a consequence of the conviction of members that in participatory certifications the cooperation principles are better reflected, and there is a need to construct an alternative market for internal consumers whose demands for healthier and social products should not be disguised by pricey foods or services for FFs. Once again there was not need to change procedures to participate in the ECOVIDA.

Finally, it should be mentioned that since the re-valorisation of FF in the Brazilian context, the state of Rio Grande do Sul has made efforts to qualify the production and value-adding activities through state dependent certification. ECOCITRUS was one of the first cooperatives to obtain the *Sabor Gaúcho* and *Aqui tem Agricultura Familiar*. They are designed to assist public agents and consumers to identify those products that originate in the state. In addition, they assist in certifying product quality since the state guarantees that processing activities follow the Brazilian food safety and transportation standards. Both FF identification procedures and food safety standards were in place before the state launched these programmes. As a result, the coop was awarded with these two stamps once it fulfilled the formalities of the process.

¹²² Ecovida is the first and largest civic food network for participatory certification in Brazil. Currently, it operates in about 170 municipalities in southern Brazilian states of Rio Grande do Sul, Santa Catarina and Paraná and is organised in 28 regional centres, involving 3,500 FFs (belonging to approximately 300 coops or associations), 35 informal consumer groups and eight consumer cooperatives.

In sum, through the obtaining and maintaining of multiple certificates for different markets and public policies, the cooperative has become responsible for several activities of the citrus chain, such as the purchase of inputs and outputs, manufacturing of biodynamic fertilizers, contact and inspection in partnership with the certifiers, record keeping, payment for certificates, etc. Likewise, the coop functions as a collective device for members to take certification decisions and plans, develop local activities and ethic committees such as meetings, field work, participatory governance arrangements, the assignation of labels, establish peer monitoring inspectional visits, and register farmers with the relevant authorities.

In spite of these instrumental actions, the anticipation of certifying requirements and the recognition that the coop is essentially directing economic gains towards FF is a source of proudness, as mentioned by the director:

“The coop functions for the benefit of FFs and with FFs. We commercialise their products at fairer prices, offer compost, training, field visits, help to organise women’s groups, supply additional workforce in production and many other activities. All of this is meticulously kept in the books, so when the certifier comes it is only to validate what we do.” (Coop Manager)

Formation of Competences

In addition to the coop certificates, ECOCITRUS has established that the formation of agroecological knowhow and mastering participatory planning tools are key to enabling the smooth functioning of governance practices. To do so, the coop deploys a strategy containing multiple elements, among which three are considered to be fundamental for the governing of coop-FFs relations.

The first consists of offering technical assistance to FFs. Here, members can request, at no cost, technical guidance during the productive process. Otherwise, the coop schedules mandatory technical visits to ensure FFs follow the coop’s manuals of organic and good production practices. To do so, the coop founded a dedicated department for technical advice and hired two agronomists, an environmental engineer and experienced FFs in participatory methodologies and agroecological production. Furthermore, the field visits include the participation of other FF members to share experiences in relation to dealing with particular production problems.

The second interrelated strategy involves the creation of specialised courses. In fact, the coop offers, at very reduced costs, open courses in agroecology, agroforestry systems, biodynamic agriculture and permaculture. In 2014, about 65% of FF members participated in one or more of these formal trainings. Equally interesting is the fact that the coop heavily invests in training in participatory methodologies and social organisation of FFs. According

to the general manager, this is the result of the realisation in the coop that many good ideas change and disappear very quickly, so the most convincing and forceful members usually set the agenda to the detriment of potentially better initiatives. In addition, many farmers began to complain about the length of the meetings and lack of commitment with proposed plans of action. Hence, with the assistance of the regional extension service, the coop began to offer training in participatory methodologies. So, farmers and managers can realise what is going on in a deliberative situation, how the interaction occurs, what ideas are left aside or how to categorise different opinions in a visual format, etc. Likewise, the coop offers training in facilitation of large group meetings with the goal of giving 'energy' and 'quality' to monthly meetings. Nowadays, it is coop policy that each meeting should be facilitated by a different member and follow visual participatory methodologies to enhance the quality of the meetings – and their outputs.

The third strategy is the provision of skilled personnel for the development of key activities in the production of citrus (e.g., pruning). While improving the quality of fruits is an important goal, this strategy also aims to reduce the burden of lack of rural workers. It is important to mention that the coop employs for this task ex-rural workers living in the urban area and who wish to return to the countryside. The group is made up of seven members who work from Monday to Friday in shifts of nine hours in an orchard belonging to one associate, according to the schedule established at the monthly assemblies.

Particular procedures to collecting and buying fruits from FFs members

The cooperative exclusively sells members' produce either in form of fresh fruits (between April and November) or juices (all year around due to the large storage capacity in the cooperative's cold rooms). Likewise, FFs are required to sell all produce to the cooperative. The coop also guarantees that it buys all FFs' citrus produce.

At the beginning of the harvest the producers are responsible for issuing an official estimate in relation to the amount, type and quality of products expected in their farms. This is sent to the commercialisation sector to assess the volume of citrus to be allocated in fresh, juice or essential oils markets. Later, the coop collects fruits at FFs' properties that are immediately taken to the processing plant using a coop truck. In the plant, workers are in charge of washing, sorting, processing or packaging the fruits to be delivered to clients with whom the coop has previously signed contracts.

In addition, the coop has established a traceability system in which each producer has a number, called a "lot". When they arrive in the agro-industry, only the fruits of this lot are processed. This ensures that if any problem is identified (e.g., the presence of synthetic pesticides or maturation failures), the coop can both contact the producer to determine the potential causes of the problem, and prevent the juices from being sent to consumers with

lower quality standards. After this, the coop provides a report to each FF in relation to the classification of the fruits according to the quality, size, colour and price paid per kilogram.

In short, the coop's way to govern FF-coop relations shows that it is designed to attend to the multiple needs of FFs, including: construction and participation in alternative markets (agro-industry unit, commercialisation sector, multiple certificates); agro-ecological farming inputs generation (compost and biodiesel units); and knowledge formation (agroecological or participatory competences). This is to say that the coop is not a mere collective device designed to add value to primary production and marketing.

COOPAN- Cooperative of agricultural production Nova Santa Rita (Cooperativa de Produção Agropecuária Nova Santa Rita)

COOPAN presents a particular case of a successful cooperative of landless rural workers' movement (MST).¹²³ A large part of its agroecological production is sold in institutional markets and goes directly to vulnerable consumers.¹²⁴ Through its organic rice brand "COOPAN", associates aim to strengthen FF autonomy in production, enhance the culture and knowledge of farmers, preserve the environment, and supply 'true' rice institutional markets. In the academic year of 2015, COOPAN's rice was served in 1.6 million school meals. Since 2016, COOPAN has been part of the select group of cooperatives that have been able to supply food to the school food network in the megacity of Sao Paulo. Furthermore, COOPAN has been fundamental in the foundation part of a second layer cooperative (Cooperativa Regional dos Assentados da Região de Porto Alegre – [COOTAP]) which is composed of another eleven landless cooperatives producing 80% of the country's agroecological rice and the largest producer of organic rice in Latin America.¹²⁵ In this context, the creation of the institutional markets has been fundamental for the consolidation of agroecology in the coop, since the majority of its two thousand tons of rice are mobilised through institutional markets.

The emergence and the construction of COOPAN agroecological rice project

The foundation of COOPAN dates back to 1994-5, when the MST organised 28 settlements involving 1,400 families in the metropolitan region of Porto Alegre. In this context, the emergence and construction of COOPAN cannot be delinked from – and is an integral part of – the landless workers' movement (MST) efforts to mobilise a political imaginary of

¹²³ Widely known as Movimento dos Trabalhadores Rurais Sem Terra – MST.

¹²⁴ COOPAN's main agricultural activities with market purposes are: dairy; breeding, raising, slaughter and processing of 1,900 pigs per month; and the production and processing of agroecological rice. While these economic activities are interlinked in the unit of production, this chapter mainly focuses on the agroecological rice because it is the only product COOPAN sells to the city of Porto Alegre.

¹²⁵ COOTAP involves 416 family farms from 16 settlements and the number of families involved with this crop has increased from a dozen to around 400 to the present time.

democratising access to land while sharply censuring the development model imposed by the agricultural modernisation project and agri-business based development model (Redin, 2015). In fact, the founders of COOPAN were part of a group of 100 families participating since the first mass mobilisations of the MST in the state of Rio Grande do Sul in 1989. They actively took part in land occupations, marches, hunger strikes and other demonstrations for almost five years before successfully being granted with the land in 1994.

In total, these families remained in different occupations for more than five years, representing the longest period of time that a group of families belonging to MST vividly fought for the right to have access to land in the state of Rio Grande do Sul. After this struggle, the Brazilian Institute of the Agrarian Reform (INCRA) finally settled them in the farm “Fazenda Capela” located in the municipality of Nova Santa Rita-RS. Due to the name of the farm, the settlement is known as ‘Assentamento Capela’ which, according to Siman (2009 p, 98), is unique across the MST settlements¹²⁶ of the State of Rio Grande do Sul (see Box 3). Moreover, although this group of 100 families was offered land in other parts of the state, they refused to settle down until additional conditions were met such as access to water, decent soil and proximity to markets.

Box 3

Distinctive social aspects of the Capela landless settlement.

- The families settled in the Capela farm come from the same region, specifically from the north of the state of Rio Grande do Sul. Those families who later founded COOPAN are all from the municipalities of Rondoninha and Ronda Alta. Furthermore, the members of these families had some affinity before the land occupations, and they were friends, neighbours, or siblings.
- All families settled in the Capela farm practiced farming before and were relatively young (17-28 years old). They worked with their parents on their own or third parties' lands, tenants, or were hired as "peons".
- Before the occupations, some of these young people were already working with the MST through their parents or family farmers unions.
- Many of the family farmers settled in the Capela farm were previously linked to working with the progressive wing of the Catholic church denominated Liberation Theology through their participation in Catholic based communities (CBC) and youth pastorals.
- Many of the Capela settlers lived in the place where the MST was born. In doing so, they experienced first-hand some of the most intense conflicts between the state, private interests and the MST. The most striking was the one at Fazenda Anonil when, during a demonstration, a truck ran over several people, resulting in three deaths. Some of the settlers of the Capela farm were camped there.

¹²⁶ In total, 14 settlements were created and land was granted to 1,400 who participated in the initial mobilisations of the MST in the state of Rio Grande do Sul.

According to one cooperative manager, these characteristics help explain the relatively easy cultural coexistence between the settled families and its socio-political orientation in relation to other settlements he knows. On one hand, *“coming from the same region and farming tradition has helped us to communicate smoothly and agree more easily about ways forward”* (Coop Manager). On the other hand, *“struggling alongside the MST and democratic or socialist ideals, led us to come up with a more coherent set of demands to the agrarian reform and other state authorities”* (Coop Manager).

The area of the Capela settlement is approximately 2,042 hectares. In the INCRA report of the Capela farm, about 50% of this land was already suitable for mechanisation and intensive farming practices. It has irrigation canals, installed drainage, roads, pontoons, manholes and fences that allows the immediate and continuous use land for cultivating irrigated rice. In addition, the same report shows that the Capela farm has up to 10 ha of Araucaria forest, 122 ha of eucalyptus and 172 ha acacias. The remaining parts of the land are pastures and natural lakes.

This land was distributed in parcels of 19 ha to each of the 100 families who participated in the occupation. They organised the settlement themselves into four nodes, or group of families:¹²⁷ Barragem, Santa Maria, Santa Clara, and COOPAN. Of these four settler ventures, only the COOPAN families (57) opted for the “agrovila”¹²⁸ format (see Figure 29). On May 4, 1995, these members officially registered the cooperative in the commercial chamber of Rio Grande do Sul. Article 4 of the statutes determines: the collective ownership of the means of production; the cooperative organisation of work; participation in decision making of all members of the cooperative; the redistribution of surpluses in proportion to the contribution of each associate's work; and the cooperative's role in the formation of its associates, including education for free to all children of the members. In addition, the statutes establish the way in which surpluses are to be distributed. In the case of gains, they are distributed on a monthly basis, according to the number of hours each member works during this period. Over the years, COOPAN's collective model of landownership and equal distribution of labour and surpluses was initially put in motion in a number of farming activities: maize production; intensive irrigated rice; poultry; and horticulture. Farmers abandoned these undertakings due to economic, social and environmental

¹²⁷ MST required settlers to organise themselves in smaller groups to facilitate lines of communication between family farmers, state and national MST directives. In the case of the Capela settlement, families decided to form groups based on affinities formed during the different occupations and place of provenance of the landless farmers.

¹²⁸ Agrovilas are agricultural boroughs in which houses are grouped together in one area rather than on each parcel of a settled family. In the Agrovila, members have houses, management office, one school where children attend classes until the age of 10 years old, a refectory for collective use, a soccer field, a collective orchard and a bakery. In addition, the Agrovila has a processing plant for rice, a fish-breeding tank, milking machinery and buildings for the maintenance of agricultural machinery. In 2018, the cooperative plans to open a new slaughterhouse.

reasons. Indeed, the farming culture of these families, who came from the north of the state of Rio Grande do Sul, knew how to plant beans and soybeans. When they arrived at the site of the settlement, however, they came across a region completely different from their origin. This new site was a lowland floodplain at certain times of the year, very different from the topography – as well as the soil – that they were accustomed to working with.



Figure 29 COOPAN's Agrovila

(Source: The coop)

Coop's members remember those initial years as very arduous and difficult. In fact, at the beginning of the settlement there was an intense need to produce food for self-consumption. Without resources for investments, production began when an associate acquired a cow through a microloan. In 1994, the first financial aid was released for the beneficiaries of the agrarian reform for the construction of houses and purchasing a few more cows. At the beginning, milk was mostly used for self-consumption. Later, they continued to invest in dairy, and by 1998 they could sell milk to a shop located in a nearby settlement for the first time. Gradually, more investments were made such as mechanical milking machines and coolers. In 2003, the cooperative began to supply milk to food insecurity programmes through PAA, becoming their first experience with institutional markets (ten years later the coop began to produce milk).

Today, out of the initial 57 family founders of COOPAN, only 30 remain part of it. A cooperative founder argues that in all MST cooperatives, this phenomenon is common. In his opinion, this is because in the initial years of a working together, there are more disappointments than tangible outcomes. In addition, many of the settlers joined MST in the pursuance of land and, once this goal is attained, other MST emancipatory values

become secondary (Wolford, 2003). Despite these factors, from the group of remaining families, sons, daughters or relatives who came to live in Agrovila are currently members of the cooperative. At the time of the research, COOPAN had 52 members and managed to engage 15 adolescents between 12 and 16 years of age who are sons, daughter or siblings of the founding families. Although they are not yet official members, they get paid for the different activities they conduct in the settlement and participate in coop reunions.

According to current members, there are key factors to understanding the reasons for the endurance of the joint venture and the interest of young people to remain in the countryside, as one interviewed nicely recaps:

“... it is by paying attention to the little things that we can collect the rewards of working together. Look, here all cooperated families live in Agrovila and every day we have lunch together, parents and children; everyone rotatively works in all activities of the cooperative, so you learn to produce more than only milk or rice. Last year, I was a truck driver, this year I am on administration; next I think I will be cooking lunches in the morning and other agricultural activity in the afternoon. All of us need to learn how to do different things.” (Coop Member)

These closer physical and social distances have played well in COOPAN's endurance. There is little occupational differentiation and the non-segmented, horizontal and egalitarian management have meant that meanings of the collective actions are jointly constructed. Indeed, individual actions are carried with a sense of joint effort: *“No matter who does what, at the end each person is responsible for the wellbeing of everyone here”* (Coop Member).

These encompassing values are complemented with those that originated in the struggles for land. Indeed, settlers remain committed to MST causes that originated its foundation:

“The agrarian reform in Brazil is incredibly incomplete. All governments have disregarded their compromise with the rural workers. They say that, here in the South, productive land is unavailable or better off in the hands of large landowners. Because of this, our struggles are far from over and our fight is an everyday exercise.” (Coop Member)

While it is difficult to ignore the sense of collectiveness and the fight for transforming the rural reality, it is also true to say that economic motives play a major role in the trajectory of COOPAN:

“No matter how much political awareness you have or how much you compromise with the sociality of members, if there are not gains, families cannot buy the basic things a family needs to adequately survive, so there is no way to keep the cooperative alive.” (Coop Manager).

It is precisely because of the need to produce marginal gains that from the beginning, the cooperative aimed to generate surpluses. In this context, they began to develop their productive projects with strict cost-revenues assessment, planning, control and labour organisation. Moreover, since 2003, efforts of the coop members have been directed to on-farm value-adding activities, particularly the production of agroecological rice and investments in processing units. They include a slaughterhouse, machinery, buildings, delivery trucks and a complete rice milling plant. The sales of organic rice alone represent the larger source of coop revenues (60% of the coop's gross income), generating constant labour needs for about 25 members. In 2014, COOPAN's harvest consisted of 1.5 thousand tons of agroecological rice. In turn, average salaries paid to coop members have improved from R\$ 489 in 2003 to R\$ 1,380 today.¹²⁹ In terms of legal minimum monthly wage, these amounts are respectively equivalent to 0.8% and 1.6%.

Securing income for coop members, however, cannot be exclusively ascribed to the joint action of the coop members and the allocation of farmland in the agrarian reform. In fact, the coop's value-adding initiatives are the result of several interrelated elements, among the most significant: introduction of alternative production practices (agroecology),¹³⁰ public policies (including institutional markets) and MST interest to link various cooperatives of 'landless' members into a second layer cooperative. Thus, before presenting the governance style found in COOPAN, it is important to consider these processes and dynamics. At the end, COOPAN or any of the other studied FF groups are close organisations whose frontiers are not permeable to people and networks.

The Case of Agroecological Rice at COOPAN

The debates to shift from conventional rice production to agroecological rice began in 1998-9, when the coop members came to realise the economic failure of conventional rice production was due to high planting and maintaining costs vis-à-vis low market prices. The proposed way to circumvent this agricultural squeeze was to enter into the niche market for organic products. In addition to the economic reasons, the chosen pathway was reinforced by five additional incidences: health hazards due to the use of agrochemicals;

¹²⁹ The procedures for the distribution of net income are established in the coop's general statutes. They settle that the net income is calculated according to the general assembly projection of the coming fiscal year. Interestingly, this projection has never been lower than has been calculated in previous exercises. In case compensation is needed due to miscalculation or harvest failure, the cooperative has a special fund for unforeseen expenses from which, at least in theory, they can withdraw the additional amount of money. According to the general manager, such situations have not yet occurred, because in the general assembly, members tend to calculate salaries on the worst-case scenario.

¹³⁰ In the sense of a scientific discipline, agroecology is a critical theory which discerns the negative impacts agro-industrial food system and proposes concepts and methods for the sustainable and just practice of farming, emphasising the need for farmers to organise themselves as a social movement, defending social justice, environmental health, food security, solidarity economy, gender equality, and more balanced relations between the countryside and the city (Altieri, 2012).

dependence on external inputs; participation of MST in the configuration of the agroecological rice conglomerate; the pursuance of the organic certification; and the creation of institutional markets. In turn, these factors (and their interrelations) influence the way that the coop configures its governance approach.

✚ Health hazards

Internally, some coop members already had experience of producing food free from agrochemicals. This is because they experienced that conventional techniques represented both health hazards and higher levels of dependency on external inputs. According to the coordinator of the rice sector, *“Producing conventional rice was absurd. Look, fertilizers, weed killers and pesticides represented a large part of the costs and we also sent two members to hospital as they were intoxicated with these products.”* (Coop Member)

The coop then decided to increase isolated experiments for self-consumption in the vegetable gardens with a view to producing organic rice. So, at the end of the nineties, the general assembly decided to produce rice without the use of agrochemicals across three hectares. This project lasted for four years. The produced rice was used in the collective kitchen, allowing all the coop members to directly experience what later became the slogan of the coop: *“Feeding people for a healthier world”*. Over time, this pilot project opened the doors for other settlements to experiment with their own rice fields:

“Look, we did not know much of producing without poisons, so we had to begin step by step. The most difficult was to produce the seedlings, next year was to manage weeds and finally we got it. Despite being almost broken in the rice sector, we finally harvested some rice and invited former COOPAN members and other nearby settlements to show what we did. They knew already about our venture, some said we were crazy, but to show that another way to produce was possible, encouraged other FFs to try for themselves, I think.” (Coop Manager)

✚ High degrees of dependence on external inputs and MST

Externally, the low degree of economic success was not only experienced at COOPAN. Other MST cooperatives equally accumulated high debts. As a result, the MST regional extension cooperative (Cooperativa de Prestação de Serviços Técnicos em Áreas de Reforma Agrária – COPTEC) opened a discussion between three settlements¹³¹ of the metropolitan region of Porto Alegre. It aimed to understand the problems faced by the settlements and collectively proposed a viable alternative to overcoming the crisis of rice production. In 2002, the search for alternatives resulted in the formation of an inter-

¹³¹ Initially, the group was composed of FFs who planted organic rice in the river basins of the metropolitan region of Porto Alegre and by three cooperatives: COOPAN, COPAC and COPAT.

cooperative group for the management of organic rice (Grupo Gestor do Arroz Ecológico – GGAE), in which the directives of COOPAN actively participated.

GGAE established that since the conventional productive system caused multiple burdens – including lesser degrees of autonomy and higher dependence on external inputs, loss of harmony between associates and the environment, and economic and health problems – any proposed solutions should tackle these multiple burdens. Then, the group proposed a general transition to agroecology as a means to jump over the squeeze of traditional farming. In addition, the proposed transition helped maintain the critical instance towards industrialised food systems and agribusiness, the renewed flagship of the MST movement.¹³²

As MST has a dedicated budget to manage agrarian reform settlements and is an important actor in the development of policies for family farmers in Brazil (Wolford, 2010), this secured the institutional support required to facilitate the transition to agroecology. For example, MST helped to lobby for credits for COOPAN’s transition to agroecology, and technically assisted the cooperative with the formulation of projects to receive state support for the acquisition, construction and updates of the rice processing plant (se Figure 30).

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Figure 30 Rice drying, storage and processing unit

(Source: Coop’s archives)

¹³² Altieri and Toledo (2011p, 597) argue that in the case of the MST the adoption of agroecology as the new movement vision for agriculture is not only for the search of more sustainable farming practices. For them, agroecology is being advanced by the MST because it promotes participatory governance arrangements as agroecology “is socially activating as its diffusion requires constant farmers participation” and it “promotes economically viable techniques /.../ avoiding dependence on external inputs.”

¹³³ INCRA, BNDES and BADESUL granted the financial resources for the acquisition of the hard infrastructure needed for rice processing and packing of organic rice.

In this way, the concept of producing agroecological rice as a viable social and economic alternative was scaled up to all COOPAN rice fields and scaled out to the all settlement cooperatives in the metropolitan region of Porto Alegre. Likewise, the group provided the necessary substance to generate sufficient knowledge to produce without incurring economic losses that characterise the process of agroecological transition (for a detailed account see, Greco and Floriano, 2016). COOPAN's manager summarises this interaction in the following quote:

"With the first experience we learnt how to get out of the pack of poisons we used in rice farming, but we were not sure if we could plant all the fields alike. We learnt that the main harvest would be in March or that the period of time between harvesting and next planting required more attention due to organic fertilisation. We also doubted if we could get higher prices, to whom we could sell or how to get the organic certificate. Yet, in talking to other cooperatives we understood a bit better some agroecological practices and were more confident about the decision to change." (Coop Manager)

Currently, for example, GCAE gathers about 60 FFs who meet twice a year at the end of the rice cycles to discuss essential aspects of the management of agroecological rice (planning, production costs, prices, commercialisation), production (seed production, fertility, pest and disease control, warehousing and processing) and certification schemes. Additionally, the group provides all required information to a MST founded second layer cooperative in charge of coordinating the rice chain of eleven MST settlements cooperatives (Cooperativa Central dos Assentamentos do RS - COCEARGS).

Among other things, this conglomerate of cooperatives and GGAE are in charge of articulating what they have named 'operational collectivities' (*coletivos operacionais*). In total, there are three groups: the production of rice seeds; collectivities of cooperatives processing and storing production; and the commercialisation group. With the exception of the group producing seeds, COOPAN is an integral part of the processing, packaging and marketing of organic rice. In fact, COOPAN not only processes its organic rice (2000 tons/year), it provides processing services for about 2,500 tons for other settlements. Moreover, COOPAN with the support of the National Commercialisation Office of the Agrarian Reform Cooperatives of Brazil (Confederation of Agrarian Reform Cooperatives of Brazil Ltd – CONCRAB), participate in several public calls for the supply of school meals, mainly of municipalities in the southern Brazilian states.

The pursuance for the organic certification

While in the first years COOPAN and GGAE sought to generate and master the technical knowhow of the agroecological production, soon afterwards COOPAN felt the need to obtain an organic certification to have access to differentiated markets. So, in 2004

COOPAN began to adequate its agroecological practices in rice productions to the requirements of IMO-Brasil,¹³⁴ leading to the construction of new infrastructure to dry, mill and package produce.

Initially, COOPAN certified 34 ha. According to the coordinator of the rice sector, this decision proved to be highly inconvenient; on one hand, pest control in organic production occurs, above all, from managing water flows, so it did not make sense to combine conventional with agroecological production because both used the same water source. On the other hand, the coop achieved higher social and environmental standards than those requested by IMO. So, there was no need to make large adaptations beyond the compost fields. As a consequence, over the following two years COOPAN decided to shift entirely to agroecology, producing organic rice over 250 ha.

Interestingly, COOPAN identified that having an external body certifying its products was beneficial for marketing purposes, but at the same time could generate dependence on an organisation that may not necessarily share its core values of autonomy, participatory management and solidarity. As a result, it began dialogues with other settlement cooperatives to create joint guarantee systems, subject to the Participatory Bodies for Conformity Assessment (Organismos Participativos de Avaliação da Conformidade [OPAC]). This initiative was rapidly taken up by GGAE and promoted at all levels of the MST organisation, which delegated COCEARGS to organise the settlements for OPAC and initiate the legal process to become a body of social service for participatory organic certification (Organismo de Controle Social –[OCS]). In 2012, the federal government licensed COCEARGS to monitor, evaluate and certify the participatory certification process via both OPAC and OCS¹³⁵. Since then, participatory certification has become a formal arena to improve their relations with other FFs and share knowledge on the management of the MST rice agglomerate:

¹³⁴ Nowadays, Eocert. COOPAN decided to certify its productions through the Swiss-based certification body IMO. According to the coop manager, IMO was selected because in addition to conducting lab test looking for traces of forbidden products, IMO also monitors environmental and social aspects, with an emphasis on ecologically friendly agriculture. In addition, the IMO certification system guaranteed compliance with international and national regulations for organic products, including the Brazilian Law for organic products (Lei Federal 10831/2003) as well as North American and European regulations.

¹³⁵ According to Brazilian legislation, producers can choose from three forms of certification: 1) third-party certification, subject to the Conformity Assessment Bodies, IMO being one of them; 2) participatory Guarantee Systems, subject to the Participatory Bodies for Conformity or OPACs; and Organisations for Social Control or OCS. Those who opt for the first two can sell their products with the official logo “Orgânico Brasil” alongside the country and for export purposes. OCS is more informal, and is aimed towards small scale producers selling in local organic markets (*feiras orgânicas*). According to Radomsky (2009), third party certification and participatory process belong to two different logics. On one hand, external certification agencies follow a bureaucratic format, identified with international organisations and institutes aiming to be neutral in relation to the evaluated farmer. In contrast, OPACs and OCS take into account the local context of the family farmer by participatorily designing the conditions to meet legal standards.

“Producing agroecological rice was a coop decision, but in my case, being part of the certification process gave me one option to learn from other farmers and explain to them our ways, our problems, our technique.” (Coop Member)

Although COOPAN could have decided to change from IMO to participatory certification, it resolved not to do so. Members argued that both should be integrated. For them, both present important benefits and can be harmonised. More importantly, each of them targets different markets. IMO certification is more recognised by the supermarkets where COOPAN sells some rice, and Orgânico Brazil is widely popular in institutional markets. Moreover, taking part in the OCS could help to develop other sectors for the cooperative (e.g., the organic production of vegetables to be sold at local markets or the reorganisation of its bakery). In addition, members of the cooperative argued that they have already routinised the manual for the organic certification they developed for IMO, and they have experience in dealing with audit processes and tackling nonconformities under this scheme.

Influence of Institutional Markets in the Emergence and Stabilisation of the Agroecological Rice Project

In relation to the weight of institutional markets in the evolution and organisation of COOPAN, the general assembly minutes and plans of action reflect that coop members began to increase the production of rice once they came to realise that what they produced could be sold to institutional markets. Indeed, COOPAN invested in new processing infrastructure and commercialisation strategies once they began to supply PAA¹³⁶ and the PNAE. Moreover, they also played a fundamental role in increasing the salaries of COOPAN members. In this context, the creation of institutional markets is fundamental for the stabilisation of the coop business venture (member salaries) and securing investments (processing and logistical infrastructure).

According to the coop manager, without such markets the rice project would have been much smaller, since for years the only market was PAA. In addition, with the enactment of the school food reform, the coop is not only able to increase the amount of rice sold for food security programmes, but the differential price paid for organic products has increased the coop's revenues.

“In the case of our COOPAN rice, institutional markets help us to breathe and to move forward. If it had not been for these programmes we would not have been able to make much progress, because

¹³⁶ It is through PAA that the coop introduced institutional market conventions to the way they sell and offer added value products. For example, there is a consensus among members that through the participation in PAA, the coop acquired sufficient experience and knowhow to deal with PNAE, including among the most mentioned: how to participate in SISA programmes, state support programmes for FF, fiscal requirements, quality and quantity demands, payment conditions and delivery demands.

we were not in capacity to compete with industrial millers... Likewise, if we did not put tons of rice in PNAE our rice would have to sold as conventional."

(Coop Manager)

There is also consensus among the coop members that selling organic rice to institutional markets is more in tune with the coop's solidarity values. For example, FFs argued that when vulnerable consumers eat COOPAN rice, they are being part of a more inclusive food system, since otherwise they could simply not afford to buy quality products and would "...fill the stomach with whatever they can buy" (Coop Member). Moreover, the coop's annual plan of action establishes that the foremost goal for the agroecological rice is to offer a healthier product to schoolchildren. In this context, when questioned about what it means for the coop to supply organic rice to schools, the person in charge of PNAE in the coop convincingly argues that his generation mostly eats products of the green revolution, but with the school food reform, children can escape from this cycle and begin to create healthier food habits.

In other words, participating in PNAE brought new ways of thinking about consumption. On one hand, the coop realised that in addition to brown rice, PNAE also buys parboiled rice. Dining ladies prefer the latter due to its flavour and combinability with beans. In this way, they have come to understand that the public sector demands other values, like food culture and preparation preferences. On the other hand, shortening the chain also involves the establishment of direct contact with municipalities and what it means to sell to these bodies.

In contrast to what happens in the selling of organic rice to other markets, selling rice to PNAE in the city of Porto Alegre (and other nearby municipalities) requires direct contact. For the coop, nutritionists are the key actors in municipal spheres to establish face-to-face relations, because they are in the middle of the supply chain (schools-nutritionists-municipal authorities) and are responsible for the quality of the school food service. Indeed, observations during the processes of configuring public bids and school menus show that the coop manager contacts municipalities directly through nutritionists to present the coop products and values while exploring supply alternatives.

From the coop's perspective, then, nutritionists tend to be much more aware of the benefits of consuming organic food and the legal requirements of the school food law. Furthermore, without their intervention, procurement managers can easily advance any price and supply capacity concerns to avoid buying coop products:

"At the beginning we decided to establish a close relationship with the Nutrition Sector and we participated in each public call. At the beginning, however, the financial office did not accept our proposals, so we had to call in a lawyer from the MST so they would respect the law and start

buying. We struggled, especially on the organic part – the city did not want to pay the premium the law establishes.” (Coop Manager)

Despite the initial resistance to buy from the city of Porto Alegre, one manager also contends that the success to supplying Porto Alegre depends from the mutual interest of the city-coop. The coop is able to guarantee a stable supply of a product of premium quality at an affordable price, meeting legal and municipal requirements, and FF members can sell large volumes of added value product while improving their livelihood conditions without disguising coop's foundational principles. Both are constantly recreated by the direct contact between the coop and the school food manager from the nutrition department. That is to say that the supply chain needs and demands are adapted and synchronised in line with the school food principles in mutual coop-city consent.

Such adaptations have created additional quality concerns, as the coop nowadays understands that the quality of the product is not enough. On any occasion, having agroecological rice means little if the quality of the delivery service does not match the municipal expectations. Indeed, the specific long shelf life of rice and years of investments in securing its premium quality offer reliability of the quality of the product itself, yet other attributes like attention to detail in the presentation of selling offers, paperwork management, fiscal correctness, punctuality of delivery, coop reputation, complaint management, and effective customer support have become equally relevant in the assessment of the coop's agroecological rice. To attend to these demands, the coop has begun to make investments in distribution infrastructure and dedicated personnel in charge of dealing with institutional markets, including three people managing and coordinating public calls, one exclusive member controlling product delivery and dedicated handlers for institutional markets distributing the rice whenever needed.

It is precisely here where the coop weighs additional values of PNAE, which according to the coop manager is to match the proven quality of the product with the quality of the coop's logistical and marketing services. This because entering into contract with public consumption and direct sales involves not only knowing how to produce and add value to agroecological rice, but also entails knowing the consumption side, how to market, deliver and follow up municipal requirements. In turn, these activities are supported and guided by a governance approach that is presented in the following paragraphs.

COOPAN's Governance Approach

In the strict sense, the coop governance structure has been arranged in accordance with the Law No. 5794/71, which provides the national policy framework for cooperatives and the requirements of MST in the organisation of producers' associations. Nevertheless, if one takes into account the development of primary production and value-adding sectors, the

coop structure has been the result of periods of trial, error, discovery and stabilisation (see Figure 31).

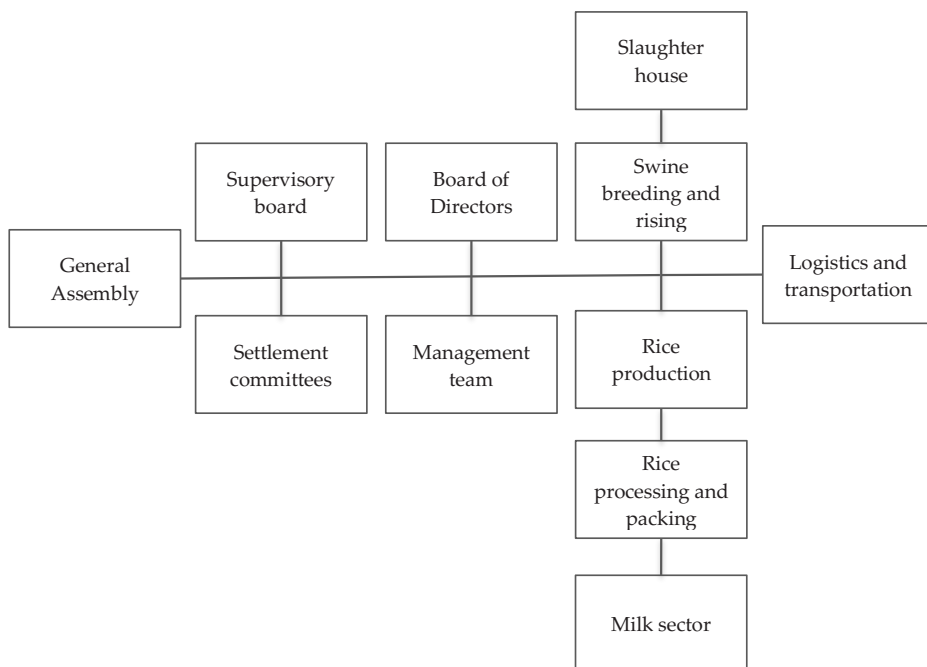


Figure 31 COOPAN governance structure

- General Assembly: Maximum decision making body, in which each member is entitled to one vote and its decisions are mandatory. They are conducted twice per year in order to assess the coop's performance and approve the accounting of the agricultural semester and investments. In addition, all members discuss and approve social goals and the strategic plan.
- Supervisory council: Supervises the action of managers to ensure they are aligned with the decisions of the general assemblies and the core cooperative values. Three associates make up the board elected during the general assembly for a period of two years.
- Settlement committees: Formalised spaces of political, productive and organisational deliberations. Composed of four coordinators. These committees are formed by physical proximity (between houses) and each coordinator represents eight families. It represents the coops political membership to MST since they discuss regional or national MST directives.
- Council of directors (CD): Responsible for the productive and social conduction of the cooperative. A representative of each of the productive group forms it and allocates the labour force between productive groups sectors, oversees primary production and coordinates meetings and assemblies.

- Management Council (MC): The management body of the cooperative, which coordinates the day-to-day activities of the cooperative and its financial management, including the centralisation of the purchasing of inputs and sales. It is the face of the cooperative that represents COOPAN in relation to institutional markets and other commercialisation channels. In particular, the MC is in charge of finding viable markets for the coop products, and organises the production in such a way that markets' quality and quantity requirements are met.
- Productive groups (PC): Acting in the production and transformation of primary production, these sectors employ all the cooperative members, and are organised according to the specifics and requirements of each sector. Each of them has a coordinator, representing the sector in the council of directors.

From this governance structure, the coop develops coordinating activities like strategic planning, control of processes, management of production while adopting the socio-economic strategies emerging in the general assemblies. These strategies are developed after each of the governance nodes presents the semester results. After the presentation, each node makes a self-assessment and evaluates the others. Suggestions for changes in the direction of the coop's governing values, betterment and control measures are and discussed and summarised. After this round of discussions, the proposals go to plenary vote.

The second input for the elaboration of the coop's governance strategy emerges from the PC, and is far more complex than the coop assessment of performance and definition of governing values. It occurs during the elaboration of the yearly strategic plan and begins when each of the PCs elaborate the strategic plan¹³⁷ for the next agricultural year. This plan is sent to the MC who evaluates it, makes recommendations and returns it to the sectors. In turn, they discuss proposed amendments, discuss new proposals and release them to be sent to the CD. The CD receives, compiles and makes a unique plan to be presented at the general assembly. What is discussed at these meetings is made known to everyone in each sector by means of the settlement committees.

It is interesting to note that when proposals come to the vote in the assembly, they have been widely discussed in all governance nodes. Nevertheless, it is the plenum of the assembly that have the final word and approve the planning for the next year. Indeed, the general assembly defines how many hectares they will plant, how much they expect to harvest, how much they will spend or invest and to whom they aim to sell the produce.

¹³⁷ The strategic plan of the PC involves: analysis of the aspects that are not controlled by a group and that may hamper or hinder the normal functioning of the PC in relation to the coop governing values; self-assessment of the group performance in relation to those practices that contribute (or not) to the smooth functioning of the group; and the definition and prioritisation of key tasks or issues that have a significant influence on the way the group organises its works or on its ability to achieve its core function.

The plan is, according to them, well detailed, containing most of the necessary information required to design and establish how the different activities in the coop are to be carried out and by whom.

Finally, the CD and MC meet up monthly to evaluate the progress of planning. Thus, the strategic plan goes back and forth, according to the needs of governance nodes and the wants of the general assembly. Lastly, if a major change in the general guideline for action is needed, the CD or MC summons the assembly to analyse, discuss and approve (or not) such a change; always respecting that logic, passing through the productive groups first, then MC and CD:

“...moreover, while there are two general managers of the cooperative, one man and one woman, no important decision in relation to the coop’s patrimony, statute changes and organisation of the sectors can be taken individually by any or both.” (Coop Manager)

Once the coop’s operative guidelines have been established, the infrastructure requirements identified and financial needs identified, the chosen strategy begins to be figured out in the coop’s PC and management sectors. In this process, aims and means become intertwined while practicing what has been jointly planned:

“Most of us know when and how planting, weeding, harvesting will be done, that is a fact after 20 years of learning about the land conditions and our technical capacity. Yet if the work is not meticulously organised we would overestimate the capacity of the processing plant or need to hire combines nearby.” (Coop Manager)

In this context, the organisation of work represents a central activity for the everyday governance of the coop. Let us then see how the allocation and selection of work is organised, distributed and paid. In the first place, it is at the general assembly where the allocation of each member into any of the other governance nodes occurs. Here, member reputation in relation to technical capacity and leadership performance proven in certain activities is a core feature of members’ discussion when deciding who does what. After this, the sectors have the autonomy to request additional labour or the provision of temporary labour to other sectors if the strategic plan has identified those needs.

From the planning stage, the productive groups internally design the work process. The day-to-day tasks are decided within the sectors, which officially meet once a month, or at any time to deliberate on routine activities of production and adapt them to any new requirement identified in the strategic plan. In practice, the robust participatory character of the strategic planning fosters engagements of ‘lay workers’ since they themselves directly intervene in the labour question while planning their own set of activities, tasks or projects. According to the coop minutes, in the strategic plan of 2014 and 2015, for instance,

85-90% of members took an active part in the planning of their tasks or the decisions about what they are required to do.

Thus, it is in the PC's organisation of labour where the governance of primary production occurs. The work activities are carried out in two periods over the day, with the majority of workers working on different tasks throughout the working day (Monday to Saturday). While the PC has the autonomy to request additional labour or the provision of temporary labour to other sectors, there is one cooperative associate who is responsible for the coordination of members between the different PCs. This position is decided in the general assembly, which in the absence of a volunteer assigns the job to a person with thick knowledge about the functioning of any other PC. Moreover, the general assembly requires that people working in the CD and MC should at least work half the time in farming activities to ensure that management and production remain interlinked. In this context, the coop aims to reduce the gap between administration and primary production.

This almost daily governance practice allows members to work on demand and entails less rigidity in the allocation of staff. In addition, it contributes towards generating competences about the functioning of different sectors and competences in different tasks:

"After 20 years, it can be said most of us could work in any sector, any anyone should be able to do so. You also have the case of those with higher affinity to their work, more passionate, more dedicated in what they do. So, in the general assembly we say let him continue in his work, yet we put one talented member with others with less experience in the sector. Thus, everyone has the opportunity to learn from others." (Coop Manager)

Rotation of coop members within PCs and among them, however, respects a criterion of maintenance from some workers in the sector or activity for a certain period. Other workers can alternate among PCs. Most of the time, the maintenance policy is based on a particular person's knowhow; who, at least in principle, is being able to pass it on to the others. Instrumentally, the policy seeks to maintain the performance of PCs, because the excess of rotation or even a rotation that neglects the technical requirements of equipment can compromise the execution of tasks or the coop infrastructure.

Ethically, the rotation corresponds to the founding values of isonomy among coop members. That is to say that equality in the ownership of means of production and voting rights are to be equally experienced by working in any activity within the coop. In this way, harmonisation is sought between ideals, capacity building and about the coop performance as a whole: *"...here, nothing is fixed and farming activities can be adequately done in many ways, yet it is upon of each of us to beautify them"* (Coop Member).

Despite the fact that rotation effectively works within COOPAN as a means to generate competences and additional income and maintain ideals of joint action, when it comes to specialised technical and managerial knowledge, not all members are willing to engage in such activities. In fact, members argue that positions requiring more automated activities, such as processing of rice and the slaughtering of pigs, become far less rotatable (Chiariello and Farid, 2013). According to the coop manager, there is a reluctance from members to take over responsibilities in value-adding activities: *"...on many occasions there is a fear of members of making mistakes that can be costly for the coop, either because of delays in deliveries or lost revenues"* (Coop Manager).

In addition to productivity concerns, members' willingness to participate in management and direction activities is far lower than those requiring manual or operative competences. In spite of paying a 5% bonus to managers, the general assembly records, for instance, show that administration and marketing positions have remained unchanged for about six years. Furthermore, over the years there has only been one coop member who nominated himself to be part of the management team. For the coop manager this is a manifestation of the low ability of the coop to generate accounting, legal, fiscal, administrative and marketing knowledge:

"...we have already made many attempts to engage additional people in the administration of the coop. Nowadays we hope that a son of a member who is at university, studying enterprise management, will help us in the near future." (Coop Manager)

Finally, governing decisions concerning how the work process is organised are taken within the CD and MC. Here, associates aim to synchronise production, processing, packing and selling, and constructive guidelines are provided to the coordinators of the PC. In doing so, the coordinators have a unique role in the organisation of production and synchronisation of different activities and market needs, including taking over measures to ensure the maintenance of the organic certification. To do so, the coordinator of the rice sector consolidates information coming from production and processing sectors which, together with past experiences and the foreseeable demand of the certification agency, distribute responsibilities among the different members in the coop. Some of them include formal documents such as memoranda; many of them are commonly discussed in reunions or places of sociality.

In summary, the collective organisational modality of COOPAN reproduces the aspirations of settlers at the time they become farmers with land. In doing so, they have established a teleo-affective structure based on collective decision making, equal access to coop productive and managerial tasks, and the formation of polycompetences. All of them are reflected in the coop governance structure, processes and practices in which the organisation of activities begins with the formulation of the strategic plan of action, and is

completed in the day-to-day organisation of the labour process. It is also shown that in the scaling out of the agroecological rice production, the agroecological certificate and partnerships with other MST organisations and agrarian reform institutions plays a key role in opening access to markets. In relation to institutional markets, PAA secured the success of scaling up as it secured the necessary income to be able to invest in processing and storing infrastructure. Finally, it is shown that the coop had the supply capacity at the moment the school food reform was enacted. While this represented additional gains due to PNAE's differential price of organics, in terms of governance the major change has been the formation of new marketing and logistical competences in dealing with public market conventions.

*ASSP - The Swine Growers' Association of the Southern Region of Porto Alegre
(Associação dos Suinocultores da Zona Sul de Porto Alegre)*

Alongside the country's decentralisation processes, in 1988 the city of Porto Alegre reorganised the collection of food waste. Since then, the Municipal Department of Urban Cleaning of Porto Alegre (Departamento Municipal de Limpeza Urbana de Porto Alegre [DMLU]) is in charge of collecting, regulating and managing domestic or industrial residues. In this context, DMLU managers started to discuss alternatives to tackle a major challenge of the time: a large number of administrative processes concerning the clandestine production of pigs in the southern part of the city; a growing number of unauthorised collectors of animal edible food waste; and the existence of various illegal places of organic waste disposal.

To reverse such negative environmental situations, the DMLU designed a project with the goal of using food waste from hospitals and large restaurants to provide animal feed for artisanal pig producers. In the first place, the DMLU carried out a food waste survey across these large organic waste generators. In this exercise, it calculated the amount of food waste produced and its composition. After the results were obtained, DMLU selected those promising institutions in which edible material or by-products of cooking or buffets could be used for making feed for pigs. Then, DMLU trained kitchen personnel at thirteen selected sources so that only usable organic residues could be delivered to the DMLU at no cost, and free of undesirable materials such as plastics, glass, toilet paper, cans, etc. (see Figure 32). In addition, the DMLU created within its organisational architecture a specialised department to deal with what became known as the Project for the Reuse of Organic Waste (Projeto de Reaproveitamento de Resíduos Orgânicos [PRRO]).

The PRRO managers then began to search for interested swine producers to participate in the project. As a result, four pig farmers were accepted onto the pilot project. They began to receive the food residues that DMLU collected in thirteen establishments free of charge, accounting for 2.5 tons of organic waste per day (peels and scraps of fruits and vegetables;

dairy products; cooked/cured meats; shrimp shells; and leftovers from pots or buffets). These were artisanal pork producers who, in addition to feeding their animals with organic residues clandestinely collected, were used to disposing of animal feed leftovers improperly, generating public health concerns in the peri-urban areas of the city.



Figure 32 Example of organic waste selection for animal feed

With higher costs of waste disposal due to changes to regulations, in 1993 and 1998 more restaurants (onwards referred as 'entities producing organic waste' or EPOWs) became interested in participating in the PRRO.¹³⁸ Before participating in PRRO, EPOWs had to pay private recycling companies for this service, accounting for savings between R\$ 2,000-6,000 per month.

In addition to the economic advantages, the PRRO manager also reports the fact that contributing to a social project with environmental benefits also constitutes additional motivations for EPOWs to join the project. In 2002, there were 38 EPOWs participating in PRRO, including 27 hospitals, eight large enterprises canteens, two prisons and one school. They supplied PRRO an average of 7.5 tons a day.

Since 2010, a total of 73 EPOWs are part of the project, providing between 11 and 13 tons of residue for animal feed. Put another way, the city is saving between 132,000 and 156,000

¹³⁸ In the city of Porto Alegre, organic solid waste produced in large amounts is classified as "special solid waste". Therefore, residues generated in non-residential areas resulting from commercial, industrial or service activities are classified as special waste, which can only be handled by special (private) enterprises, licensed by DMLU.

kg of organic waste from going to landfill every year. For the EPOWs, the collection of waste is the responsibility of DMLU who assigns personnel and resources for the accomplishment of this task. The regularity of the collections depends on the nature of EPOWs. In hospitals, DMLU collects every weekday and in restaurants every second day.

Alongside the growing number of participating EPOWs, PRRO managers began to expose to DMLU directives the benefits of continuing with the project (as is the case whenever a new government is elected). In fact, project archives show that initial project aspirations in the mid-nineties were broadened to include new goals, such as reducing the amount of organic waste destined for landfills; reducing clandestine landfills, improving the herd's sanitary conditions; reducing the environmental impact caused by the proliferation of dumps at pig farms; and increasing the income of pig farmers. This work resulted in the approval of a five year budget to run with DMLU resources at the PRRO. Since then, the DMLU has provided the project with two trucks, a driver, and three refuse collectors for the daily collection of food waste.

The DMLU also fashioned the entrance criteria for new producers, including his/her economic situation, production place (farms in the southern region legally authorised to do agriculture according to the city development plan) and eagerness to abandon illegal collection.¹³⁹ In addition, the maximum number of animals that each could rear (100 pigs) and the daily quantity to be provided per animal (6 kg) were established. Project managers also established that selected farmers should donate a monthly basic food basket to local day care community centres. Since then, and in return for the feed service, participants provide non-perishable foods to help to nourish 120 children younger than five years old.

As a result of long term founding and setting of PRRO participation rules, in May of 1994, sixteen FFs founded the swine producers' association of the Southern Region of Porto Alegre (ASSP). The first of ASSP's collective actions were directed to build infrastructure to receive food waste, buy some plastic containers of 100 litres, and set the rules for the farmers' collection of feed. One of the farmers donated the land for the construction of the central unit, DMLU provided the financial resources for construction materials, and members supplied the labour.

¹³⁹ In 1993, the DMLU carried out a census to identify the city pork producers. It determined that in the peri-urban region there were about 700 pig farms producing nearly 16,000 animals per year. Of these, 92% were fed with food waste (household and commercial) in farms of varied size (0.5 to 27 ha). Over the years, they became pig farmers, collecting urban organic waste in horse carts for survival. Many turned their properties into open-air dumps, with no concern for the quality of the feed or the meat produced at their properties.



Figure 33. Animal feed collection unit

Members also handed over the responsibility to distribute animal feed to ASSP. To do so, they developed schedules and the entitled amount each could pick up, according to the number of pigs. Since then, ASSP now distributes to each member following this routine: in week one, a member receives feed on Monday, Wednesday and Friday; the next week, Tuesday, Thursday and Saturday. Such distribution is designed to balance the quality of food waste obtained during the collection process.

“Feed quality is not always uniform each day; some days there are more leaves in the containers while others rice, breads and beans. So, pig producers decided the best way to distribute the food was to alternate from week to week.” (PRRO Coordinator)

At the end of the nineties, the ASSP began to be officially recognised as one of the FF organisations participating in the formulation of the participatory budget of the city of Porto Alegre. As a result, PRRO was selected to receive city resources for the acquisition of equipment for the thermal treatment of organic residues, another truck to be used during the collection of the residues, and a tractor for the association to facilitate the preparation of compost and maintenance of pigsties.

The treatment of the organic waste had become a priority for PRRO since members of the association began to be pressured to obtain an environmental licence for raising animals with organic residues.¹⁴⁰ Despite the fact that PRRO bought two crushers, a platform scale, a jet washer, a heat exchanger and a boiler, the treatment of residues never became operational. According to the PRRO manager, these failures were the consequence of both

¹⁴⁰ Current legislation (Instrução Normativa N° 6, de 09 de março de 2004) prohibits the supply of untreated food waste to pigs.

the low financial capacity of ASSP to cover the operational costs, and the lack of interest of DMLU directives to put additional resources to PRRO.

Until 2009, there were no major changes in the conduction of PRRO or in the organisation of the association. Until then, producers sold animals to a large cooperative owning an industrial slaughterhouse. This cooperative also indicated which pig farms they could buy piglets from. Both the cooperative and the piglet farms are certified at national level by the federal food safety body. Thus, these enterprises guarantee that meats are fit for consumption, enabling the commercialisation of ASSP animals.

Prices paid to producers are based on the slaughterhouse price list according to the animal breed, weight and calculated fat content. According to the PRRO managers, FFs produce about 440 tons of meat annually. In general, they sell live animals from 100 to 120 kg after four to five months of fattening, having between 2 to 2.5 herds per year. This is half of what intensive pig farmers' produce using animal food concentrate in the state of Rio Grande do Sul. Nevertheless, the low fixed costs of pigsties (made of wood), the use of family labour, and having been granted animal feed at no cost allow them to remain in businesses without losses. From this balance sheet, the feed costs account for 70%.

Each producer is in charge of finding transportation to take the animals to the slaughterhouse, collect payments and bring piglets to farms. Likewise, they individually pay professional services for vaccinations or in case of deceased animals. Together, members herd an average of 1,200 animals per year where the smaller producers have 60/70 animals and the largest 180/200 pigs. PRRO calculates that a member of the association earns between two and three minimum wages from pork production.

Selling to the industrial slaughterhouse worked out for several years. However, in 2009/2010, it suddenly stopped procuring FF animals. This is because the selling license one of the members had with the association expired. One consequence was the search for new outlets. In this context, PRRO and ASSP began to discuss the possibility of participating in institutional markets so that they could sell meat cuts directly to PAA and PNAE. Initially and in a participatory fashion, FFs and the PRRO worked to identify the major strengths and barriers to selling meat directly to the city food security programmes (see Table 10). This exercise was conducted with the assistance of the extension department of the Federal University of Rio Grande do Sul (see Araújo Wagner and Schmidt, 2012).

According to ASSP members and PRRO managers, the lack of environmental and food safety licences were the biggest bottlenecks for participating in institutional markets. In relation to the environmental licence – a requisite for entering into formal economic circuits (e.g., invoices, access to FFs' agroindustry support policies, tax number, etc.) – the city

urbanisation law does not recognise pork production as a commercial activity.¹⁴¹ As a result, the municipal body in charge of studying and issuing the licence does not acknowledge that the ASSP as an organisation is entitled to operate in the city. In relation to food safety, in Brazil, pig farmers are not required to have it, as abattoirs are the entities in charge of certifying that meats are fit for human consumption. Then, if the ASSP were to use this licence, meat would have officially lost its city provenance. As a result, it could not participate in public bids designed for FFs.

Table 10 Identified opportunities to provide food to institutional markets

Strengths	Barriers
Producing within the city limits (local food).	Lack of environmental and food safety licence.
Having the supply capacity (producing about 1,200-1,400 pigs per year).	Impossibility to directly slaughter and cut animals.
Familiarity of working together (trust) and state bureaucratic practices (experience).	Missing direct distribution capacity.
Being a city based initiative.	Little knowledge of PAA and PNAE requirements.
	Uncertainty of continuing in pig farming in the city fringe due to legal and urban planning requirements.
	Lack of technical assistance to secure product quality (standardisation required to participate in institutional markets)

Source: Based on Araújo Wagner and Schmidt (2012)

To tackle these barriers, PRRO managers and ASSP continued to conduct weekly meetings to explore alternatives. Initially, PRRO managers met with the city PAA and PNAE managers to expose the nature of the project and the selling options for ASSP. Municipal authorities emphasised that according to current legislation, ASSP was a local food enterprise that could provide meat cuts as long as it presented a local food safety certificate¹⁴² (Serviço de Inspeção Municipal [SIM]). Moreover, PRRO managers concluded that selling directly to the city would signify an increase of four to five times the price paid at the regional slaughterhouse, and that each farmer could sell between 8 and 10 pigs to food security programmes.

¹⁴¹ Article 320 of Decree No. 23.430 of 1974 contains the following statement: Only in the rural area is it permitted to raise pigs. Likewise, the more recent urban plan only allows primary production activities in what it delimitates as the 'Rururban' city region. Nevertheless, the farms of the association are outside of this demarcation.

¹⁴² In Brazil, municipal authorities are entitled to issue food safety certificates for commercialisation within the municipal limits for products of animal origin (fresh or processed). According to several rural development experts, this instrument has been decisive for FFs' participation in institutional markets, since requisites are adapted to local conditions (e.g., buildings, equipment, traceability mechanisms) and not to industrial standards. Nevertheless, if a FFs' organisation aims to commercialise products to federal level, processes should adapt to industrial standards.

With this information, PRRO and ASSP began to explore the option of constructing an artisanal slaughterhouse in one of the farms belonging to an ASSP member.¹⁴³ It is important to note that while pig production is prohibited, processing companies are licensed to operate within the city limits. Then, FFs could obtain the environmental license (a prerequisite for obtaining the SIM or municipal food safety certificate) in the Municipal Secretariat of Industry and Commerce. Nevertheless, high construction costs and the uncertainty regarding the continuity of pig farming due to state and legislative pressures impeded members' investment in processing infrastructure. In addition, pig farmers could not apply to FF support policies for start-ups because their activity was treated as 'illegal' in the city development plan.

To overcome this major obstacle, PRRO suggested linking another member to the association who had recently constructed an artisanal pork slaughterhouse for the production of sausages, bacon and other products (fig 34). As pros, the butcher had already obtained the environmental certificate and would only have to apply for SIM. As cons, FFs argued that ASSP is basically designed to mediate the relations between the DMLU collection service and FFs – and not between FFs and markets. Nevertheless, they decided to go forward and fashioned a strategic partnership with the artisanal butcher. In this design, FFs are in charge of taking the animals to the artisanal abattoir and pay a pre-established amount for the service of slaughtering and cutting the meats. In addition, the butcher can dispose of the animal parts that are not sold to institutional markets, and are useful for the making of sausages. In return, the artisanal butcher pays for laboratory results (indicating the fitness of the meat for consumption) and adapts the slaughter building to the requirements of SIM (e.g., frozen unit, cutting equipment, sanitary conditions, etc).

ASSP also agreed to hire a veterinarian to inspect properties on a weekly basis with the goal of offering better quality animals to the slaughterhouse. In addition, they decided to offer the best animals to institutional markets (animals who visually presented less fat, more meat and no indication of disease). Likewise, the association guaranteed to school food authorities that they would replace any meat cuts that deviate from expected quality at school levels the same day.

¹⁴³ Ironically, while the city prohibits animal production within the city limits, it allows enterprises to process animal products.



Figure 34. Artisanal slaughter house

In 2010, ASSP made the first delivery of meat cuts to the PAA in the city of Porto Alegre. Since then, it has supplied an average of five monthly pigs to zero hunger nuclei located in marginalised and poor neighbourhoods. The low amount of sold animals is due to the PAA cap (R\$ 8,000 FF/year). In 2011, PNAE of Porto Alegre began to buy meat cuts according to the specifications jointly established with the city dieticians. ASSP also broadened the alliance with the butcher for distributing meat cuts along the 98 municipal schools and 23 communitarian kitchens. In this arrangement, ASSP pays a value per kg that, in the year 2013, totalled 2000 kg per month during the school calendar. This partnership was needed because a credit for the purchasing of a conditioned truck for meat transportation was rejected due to the low financial payment capacity of the ASSP.

In addition to higher prices, PRRO also argues that the participation of ASSP in PNAE revitalised the relation of the ASSP members with DMLU. This because DMLU was considering finalising PRRO as it considered that the costs were higher than the benefits:

“The thing is that not all directives come with environmental eyes. So, for some new DMLU managers, the collection is not necessary because it is expensive. With certainty, before ASSP supplied meats to PNAE, they were thinking about closing the project. So, we had a big challenge in front of us that was to make this collection become feasible again. After the first supplies, DMLU directives stopped worrying about the pork project and began to see it as an asset.” (PRRO Coordinator)

Until 2015, ASSP supplied an average of 10 to 15 animals every month, gaining three times what could otherwise be made at the industrial abattoir. FFs report that the institutional market's additional income has generated better livelihood conditions, including investments in housing repair and a desire to continue with the activity. Nevertheless, at the end of this year the school food council made a visit to the artisanal abattoir, finding that installations were not sufficiently clean and smelled unpleasant. As a result, it advised the procurement manager to stop buying meat cuts from the association. Despite the ASSP reacting and requesting additional visits by SIM services – who certified that the installations complied with the city food safety requirements – PNAE Porto Alegre still only sporadically buys meat cuts from the association.

PRRO managers argued that at the core of the lack of interest in continuing to supply meat to PNAE are two factors: pig farmers' business models remain profitable as the feeding costs are nearly zero, and ASSP remained focused on creating and monitoring feed distribution rules, rather than an organisation aiming to commercialise products. Against this, FFs argue that the major bottleneck continues to be the DMLU's lack of interest in strengthening PRRO. In addition, the city has not changed the urban development plan. Indeed, DMLU has stopped investing in collection infrastructure and the treatment project does not have enough funding for the installation of the equipment and the daily operation of the plant.

Moreover, ASSP has not been able to use the resources gained through the city's participatory budget. This resource is meant to be used for the construction of buildings for collective pig farming and residue treatment. In turn, procurement authorities continue to criticise the poor hygienic conditions of pig raising at the farm level.¹⁴⁴ This amounts to a sort of blaming cycle that has been a deterrent to finding ways forward to continuing supplying meats to schools.

Governance of PRRO and ASSP

As previously described, it is important to note that prior to participating in institutional markets, FFs used to individually sell live animals to the industrialised abattoir for mass consumption. In this context, PRRO managers and technicians did not join efforts to participate in the governance of the supply chain. Once the city fashioned the rules of FFs' participation in public food markets, they began to promote the inclusion of ASSP in the city's food security programmes. According to the ASSP's president, it is clear that PRRO was fundamental in opening spaces of manoeuvre in terms of entering into the city's food

¹⁴⁴ In a phone communication in early 2017, the school food manager confirmed that ASSP stopped presenting selling projects to the city in 2016. In addition, she contends that other FFs, offering better production conditions, located in the metropolitan region began to supply the totality of pork meat to the school food system.

security programmes:

“The beginning of meat supply to school meals was very hard. We were not well prepared for this; we did not have food safety licences, vehicles for transport or frozen units. Gathering and adapting ASSP’s documents for the public calls was also difficult. But, we had a lot of support from the DMLU and nutritionists.” (ASSP Director)

In this context, it can be said that the ASSP governance approach cannot be delinked from governance actions taken at PRRO, providing the construction of institutional markets are at the centre of the analysis. This is to say, while ASSP broadens its major activity to include the coordination of the provision of meat to food security programmes, PRRO managers and technicians started to become engaged with the coordination of the whole supply chain. In fact, the PRRO coordinator, head of nutrition department, and the president of ASSP began to interact on a continuous basis to enable the participation of FFs by adapting both school menus and producers’ production/slaughtering practices. They decided to follow a step-wise plan to link FFs to school meals, while making small-scale and progressive adaptations at both ends of the food equation.

Dieticians, for example, began to configure menus in such a way that FFs can supply different meat cuts and not only meat pulp. They clustered schools in a way that each group received a different recipe, being able to accommodate different meat cuts. Likewise, they created alternative recipes for pieces with larger portions of epidermal or intramuscular fat, as long as the abattoir remained certified by the city SIM programme. For this to happen, PRRO, ASSP and the veterinarian created a manual of good practices for the raising of animals to be provided to PNAE. They included: adaptation of pigsties, recognising the financial constraints of FFs; cleaning requirements of installations; vaccination schedules; and compost making. Since then, PRRO technicians’ now monitor pig farms weekly to ensure that the suggested adaptations are carried out.

FFs welcome the technical advice and have established a manual of good sanitary and animal traceability practices. They are, however, distinct from the conventional pork supply chain in two fundamental ways. Firstly, they are the result of agreements between DMLU and ASSP, considering the local conditions:

“Porto Alegre still has pig farmers who illegally collect organic waste for animal feed. PRRO guarantees ASSP members do not give the animals any kind of feed. They only give what is pondered safe for meat production and human consumption. PRRO and ASSP guarantees that meats are only sold in Porto Alegre and properly distributed. Equally important is that schools, nutritionists or even the major know where the meat comes from. At PRRO we know where the pig comes from, where they get fattened, how this animal is treated and when it arrives to the slaughter. This we know.” (PRRO Technician)

Secondly, despite the meat sold to PNAE being commercialised under the Brazilian food safety requirements, quality valuations are not totally reliant on these mechanisms. In fact, procurement authorities consider that trust in what FFs do and produce has enabled their varied treatment in relation to their provision capacity:

“You know, the city seeks to favour cooperatives with a social function. But, this is not enough for animal products. Here, meats and milk are specially treated to avoid as much as possible any danger that pupils may suffer food poisoning. So, knowing that PRRO exerts additional controls to ASSP is important to ensure that this new supplier is reliable.” (Procurement Manager)

In short, the PRRO mediating governance role facilitates the generation of trust between FFs and the city. While this is a fact, many recommendations to make reforms to buildings and production systems have been adopted only by one FF. He contends that those reforms to buildings to more adequately keep organic feed at farm level are simply too costly. ASSP members also argue that they are fearful because they face strong legal and state pressures:

“I expend large part of the day cleaning the piglets, but look, installations look unclean and that is not good when we get visits from nutritionists. So, of course, I would like to make the adaptations that DMLU suggests. We also know this is going to be better for the animals and easier to handle. However, I don’t know how long I can stay here...”
(Association Member)

Likewise, recommendations from FFs regarding food waste selection, collection and treatment remain unheard. In this context, PRRO managers maintain that the lack of commitment from DMLU directives to enlarge or qualify EPOWs and compromise financial for the construction of heat treatment plan is due to the increasing city tendency to outsource waste collection. Indeed, besides PRRO, all other collection services are in the hands of private companies.

Another factor influencing the narrow capacity of ASSP to influence the direction of PRRO (and vice versa) is the supply chain governance structure (see Figure 35). As previously stated, FF/PRRO joint governance actions only occur in the construction of institutional markets.

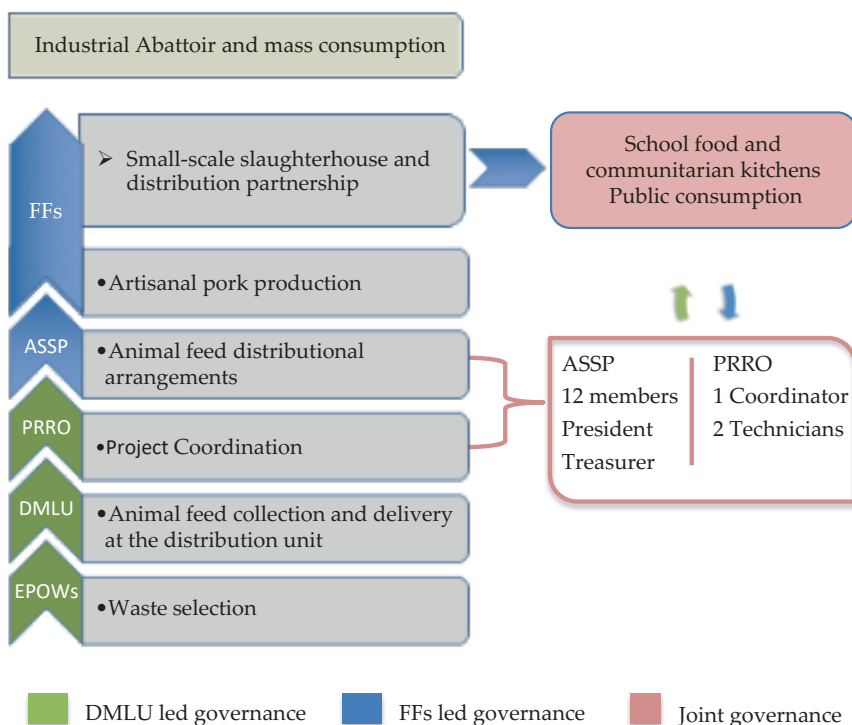


Figure 35 Governance structure of PRRO/ASSP

While the interaction between ASSP/PRRO is vividly seen in empirical reality when supplying meat to schools, further governance endeavours like organising the collection and internal distribution of animal feed respond to different arrangements. They are briefly described below, highlighting that, without their animation, the supply of local meat would be simply unattainable.

The governance of organic waste collection

The collection of organic waste is currently under the responsibility of the Selective Collection Section, subordinated to the DMLU's Social Projects area. Specifically, the reuse and recycling division coordinates PRRO. It is worth emphasising that PRRO is the only DMLU collection service remaining in direct control of the public sector, including own collection infrastructure and city hired personnel. They organise the collection of organic waste in 73 EPOWs in two daily shifts from Mondays to Saturdays. Four trucks are part of the fleet collecting the residues, from which three trucks are continually collecting and transporting what will become animal feed every day. Each collection team is made up of one driver and three feed collection men.

Before the journey begins, PRRO hand over to each driver a worksheet containing the establishments where there will be collections. The organic waste is packed in plastic

barrels of 100 litres, with a lid and handle. Once at the EPOW, drivers jot down the number of containers and replace them with clean ones. Worksheets are forwarded to both PRRO and ASSP to update the databases. For EPOWs, the buying of containers is the only fixed investment involved in entering the project. According to the PRRO manager, institutions with a high volume of organic waste have additional costs since they are instructed to keep containers in cold rooms. Trucks take the containers in two shifts to the ASSP reception centre. For both EPOWs and ASSP, the collection and disposal services are free of charge.

The aforementioned routinised activities only begin once EPOWs' kitchen personnel have received training. In fact, training occurs before an EPOW joins PRRO. Here, a PRRO coordinator addresses the environmental problem of generation and destination of solid urban waste. In this way, PRRO aims to justify the importance of segregation at the source as a way of reducing the amount of waste sent to landfills while emphasising the importance of proper separation and packaging to contribute to the environment and livelihood means of pig farmers. In addition to the more formal training, PRRO technicians and kitchen personnel, over a period of one week, characterise the quantity and kind of organic waste produced. After this exercise, PRRO and EPOWs sign an agreement in which they make explicit each other's responsibilities (see Box 4).

BOX 4

Participation rules of DMLU and EPOWs

DMLU responsibilities:

- Collect, transport and dispose of waste produced in EPOWs and the kitchens of the participating establishments.
- Hand over clean containers every time residues are collected.
- Provide training to EPOWs on waste segregation good practices.
- Supervise EPOWs' segregation practices and the quality of organic waste generated.
- Ensure that collected material is use in the social projects of DMLU.

EPOW commitments

- Adequate segregation of the organic waste, as intended specifically for animal feed, according to the rules of PRRO.
- Proper storage of containers and organic residues, avoiding the proliferation of undesired plagues (e.g., flies, cockroaches, etc).
- Provide trucks with adequate access to the pick-up location.
- Immediately notify PRRO if there is any problem in the collection of organic waste.
- Acquire the necessary containers when entering the project or when there is a need to increase the number of them, which becomes an integral part of the collection system, not subject to return at the end of the partnership.
- Make recyclable waste available to the social projects of the DMLU through the programme of selective collection.

Source: DMLU

While both parties, DMLU and EPOWs, signed this agreement, in reality they do it on a voluntary basis and there are no legal or official sanctions in case of noncompliance. In this context, PRRO managers argue that in addition to reduced treatment costs for EPOWs, one key element for the functioning of the collection system is trust. In fact, on the collection days I participated in, both collectors and EPOWs emphasised that their interrelations are based on trust developed across time.

Another governance mechanism is the monitoring of the content of barrels. For this, PRRO stamp plastic containers with numbers and drivers write down the EPOW's name, pick up time and delivery shift on a worksheet. Once they reach the distribution centre, PRRO technicians and one member of the association occasionally examine the content, seeking irregularities in the selection process. If needed, the PRRO informs EPOWs on the need to improve the segregation while realising additional new training and characterisation of waste with the employees of the kitchens. It is important to mention that there is no formal system in place for sanctions to EPOWs. Finally, every month, EPOWs are informed of the quantities collected with the goal that they can follow up regarding the quantity of produced waste, and can conduct whenever possible programmes for its reduction.

In spite of these mechanisms, FFs argue that it is difficult to track which EPOWs are adequately separating animal feed. For them, once the product arrives on the farm the containers are emptied into large tanks. Thus, it is difficult to know where any unwanted materials (e.g., plastics, pineapple, etc.) have come from. Despite this, interviewed members agreed that in general the quality of EPOWs' separation of waste is adequate. Studies conducted on EPOWs have determined that the nature of the institution (e.g., hospitals vs shopping malls) influences the quality of separation processes (see Silva, 2015). In this context, PRRO managers contend that the high rotation of kitchen personnel in the restaurant sector negatively affect what is delivered to FFs. In addition and in relation to the treatment of special residues, some organisations are more regulated and monitored (e.g., hospitals) than restaurants. These processes, nevertheless, are outside of the sphere of influence of PRRO that sees training as the major governance mechanisms which is available to any EPOWs upon request.

The governance of ASSP

After waste collection, organic residues become animal feed that is discharged in the platforms of distribution centre. There, ASSP members collect the containers in small trucks, according to rules they collectively establish. One criterion is the number of animals they own in their properties, and another is the stage at which pigs are at the farm, i.e., growing or finalising. Such collective distribution entails both formal control mechanisms and FF social relations. On one hand, to participate in PRRO, ASSP should inform on a monthly basis the number of animals each FF has, its age or stage of fattening (piglets,

growing, finalising). Here, the PRRO manager's technical visits to farmers confirm that reported amounts correspond to what is observed in the field. In addition, the president of the association maintains monthly records of the quantities of food each member has picked up. On the other hand, there are social relations of proximity, familiarity and common interest. In this context, they consider formal rules to be of less value, since:

"Between us, we have a friendship relationship, we exchange ideas, difficulties, we talk often without any problem and despite having some conflicts they are quickly resolved" (Association Member).

Despite these conditions, ASSP has very limited capacity to influence pig farming practices. In this context, FFs argue that the association is designed to collectively construct, assess and enable the access to animal feed. This is to say that farm processes and outcomes are individually managed and assessed:

[talking about supplying meat to PNAE] *"... once dieticians gave us the opportunity to supply meat to schools. We started to dust off invoices, update all the information and establish who will sell this week and how many animals. While we earn much better, PNAE is not our main market. We send many more animals to other abattoirs. We have done this for years; each pig farmer is responsible for collecting the waste, raises and sells the animals. ASSP is not meant to commercialise or produce. We have the association to receive, distribute and respond to the animal feed DMLU provides and this works out well for DMLU and us."* (Association Director)

In addition to maintaining that ASSP is designed with the goal of jointly distributing animal feed, thus reducing its capacity to influence decisions at farm level, DMLU also has little interest in intervening in the operation of pig farms. This is because DMLU values PRRO over the environmental benefits. In other words, the amount of organic waste going to landfill and the illegal collection of food waste are the core activities to be governed. In turn, there is little interest in influencing other activities of the supply chain beyond the conditions established in the formal agreement signed between DMLU and the association.

This contract put forward the FFs' participation conditions to become beneficiaries of PRRO. These conditions are: the supply of basic baskets to two municipal nurseries; the hiring of a professional for technical assistance; and access of PRRO technicians to all properties. Lastly, the ASSP president and PRRO coordinator also agree that in many cases, the low capacity of the project to influence pig farm development emerges from the fact that members of ASSP continue to operate in an environment full of uncertainties (e.g., DMLU threats of stopping PRRO, urbanisation pressures, low market prices, food safety regulations, etc.).

Regarding the governance structure of the association, this includes a management board:

one president, one vice-president and one secretary. The management board, in which all members have a seat, should elect them every two years. This legal identity or governance structure has not changed since the foundation of the association in 1992. Moreover, the current management body of representatives is in its ninth consecutive period.

In practice, because ASSP is a small organisation, all twelve associates make all decisions jointly. These decisions are made in fixed monthly meetings and in sporadic meetings, according to the necessity and urgency of each theme. For example, for enabling the conditions needed to participate in institutional markets, FFs met on a weekly basis for a period of six months. After this, they returned to monthly meetings. In general, FFs do not use participatory tools to steer the direction of discussion or facilitate the collective decision making. On the contrary; in these meetings, they aim to deal with internal problems of ASSP, mostly in relation to non-compliance of picking up feed at the collection centre, problems of environmental licences and collecting money to buy the food baskets for the schools.

APPEsul - Association of fishermen and fish farmers of the far South of Porto Alegre (*Associação dos Pescadores e Piscicultores do Extremo Sul*).

APPEsul is a collective device emerging from three interrelated factors: city policies to support small enterprises; efforts of a socioeconomic entrepreneur to set a collective device to participate in institutional markets; and the creation of public food markets for family farmers.

Initially, in 2006, the city of Porto Alegre, through the department of commerce, created a programme to enable (and regulate) the participation of small fisheries in city fish markets during Easter week¹⁴⁵. This was in response to small fish farmers' demands, including lack of direct commercialisation channels and struggles to meet food safety standards or bureaucratic formalities. The current director of APPEsul and his family participated in this programme and achieved a food safety certification (SIM-POA) to commercialise within the city limits and participate in eastern fish markets. Moreover, in the same year, his small initiative participated in the first city pilot project to open school food markets for local food business. Insurmountable barriers emerging from the neoliberal principles of the public procurement law led to the closing of the pilot project only three months later.

¹⁴⁵ Traditionally, the city of Porto Alegre opens three fish markets during Easter week, one at the city centre and another two in the neighbourhoods of Restinga and Belém Novo, located at the southern part of the city. About 400 tons of fish are sold in these markets by large and medium fisheries. With this considerable amount, the secretary of industry and commerce started to explore the option of linking artisanal fishermen to these markets as alternatives to generating income for their families.

Another factor impeding the participation of small-scale farmers in fish markets is the low consumption per-capita of fish in the city, which ranks among the lowest of Brazilian capitals. To complicate the situation, only one company dominates the city's fish market. This is to say that besides eastern fish markets and the pilot project, artisanal fisherman could not directly commercialise fish until 2010, when the city opened the school food market for FFs.

In fact, to be able to participate in this new – and significant – market, he and his family sought to create an association of FFs with three goals in mind. One was to aggregate demand, a setback he had personally experienced during the pilot project. Here and in the light of small supply capacity, dietitians grouped schools in such a way that he could only supply the group of schools located in the proximity of his fish farm. Nevertheless, procurement officials argued that under the procurement law, compartmentalising schools was against the financial interest of the city and deemed illegal. The second goal was to fully comply with the principles of the school food reform of differentiating treatment for local FF associations. The third and equally relevant aim was to contribute to the wellbeing of even smaller fishermen. Many of them live in poverty and practice artisanal fishing in the city lake. Today, three-quarters of APPELUL's members are artisanal fishermen.

As a result, in 2009 this FF and socioeconomic entrepreneur articulated these issues to APPELUL, linking the initiative of 12 local fish farmers and 54 artisanal fishermen. These fishers are the same beneficiaries of the city's Pisciculture Incentive Project coordinated by the Agricultural and Livestock Development Division of the secretary of Industry and Commerce (SMIC). Since then, most of the fish is now processed in the warehouse at APPELUL and is destined to feed the school children of the state and municipal networks of Porto Alegre. So, while APPELUL's development is influenced by a capable and visionary leader, it is also a city initiative to promoting the wellbeing of fishermen and their families. By 2015, the city had invested approximately R\$ 200,000 into the project for capacity building, purchase of ecological nets, and acquisition of portable coolers. Since 2014, SMIC has shifted the emphasis of the project towards financing the construction of tanks or reservoirs, aiming to contribute to the generation of a more stable income for otherwise artisanal fishermen. Likewise, SMIC helped the association to legalise its collective effort while promoting the association's principles in city procurement and education secretaries.

I adopt the framing of socioeconomic entrepreneur to notice that APPELUL's creation and development is deeply influenced by a singular and passionate FF. Although he and his family business capture a significant share of the association income (30-40%), he also helped to established APPELUL with the aim of solving the economic and social problems of artisanal fishermen and small-scale fish farmers. On one hand, before APPELUL they used to sell fish at very low prices (paid to intermediaries or large fishing companies). On

the other hand, artisanal fishermen, their tradition, knowledges, practices and correlation with the lake ecosystem are vanishing as fewer people are interested in dedicating their lives to this activity. Issues that the socioeconomic entrepreneur often mentions as a motive to keep the association profitable:

[talking about local and artisanal fisher men] *“The way they work is different, more like indigenous people or gypsies. Their passion is to fish, and one fisherman does not necessarily want to market what he fishes. So, the first guy who arrives near his boat to buy, he sells for whatever price. In APPELUL, we change this logic a bit because we pay premiums and he makes an extra effort to bring the fish to the shore where I pick it up. But, I always respect the artisanal fishermen’s lifestyle. So, whenever they want they bring me fish no matter how much or how , little.”* (Association President)

An artisanal fisherman explains what the association directors previously stated:

“For you to have an idea, I stopped fishing for already a month. This is not the moment to fish, fish are growing. Before APPELUL, I had to go to the city and do things I don’t like to make a living. After APPELUL, this is no longer necessary because I sell my fish for a really good price all year, so, now I can use my time to repair my boat and my nets.”
(Association Member)

Adapting the association to the needs of the school food markets required a twofold strategy. One directed to create its own provision infrastructure, another seeking to establish norms, including minimum quality standards (fresh and processed), members’ roles, distribution of responsibilities and payment criteria to fishermen. The first strategy emerged from previous engagements of the association initiator supplying schools:

“The first fish supply was very short and not attractive at all for the financial department. While dieticians helped a lot – adapting menus, dividing schools, making acceptability tests, convincing cooks, etc. – procurement officers remained reluctant to the idea to make bids and contracts for each school group.” (Association Director)

Such constraints, whether originating from legal barriers or routinised procurement methods, led to the socioeconomic entrepreneur searching for alternatives to face this exclusion. He concluded that a key factor in adequately participating in the school food market was not confrontation with procurement officials, but adaptation to their procurement methods. Thus, foreseen investments in physical infrastructure sought to adapt APPELUL to the competitive requirements of school food markets (e.g., continuity, traceability, supply reliability and quantity).

In this context, APPELUL members became aware that the very low financial capacity of the association and the rather limited resources of artisanal fishermen were insurmountable. As a result, APPELUL's initiator decided to make credits in his name for the acquisition of provision infrastructure. After a few months, a mortgage on his house and participation in a state programme for rural entrepreneurs enabled a bank to guarantee credit for initial investments in infrastructure. With his own resources and family labour, he built buildings and the bank credit was used mainly for the acquisition of machinery and cold rooms. He estimates that altogether, investments in buildings and electricity generators amounted to about \$R 600,000.

Buildings and machineries do not operate themselves, and fishermen are fishing. Hence, the socioeconomic entrepreneur decided to engage his family in these activities by creating an association within APPELUL (what he calls a 'family agro-industry'). In fact, his wife and relatives, among others, began to clean fish, make fish balls/hamburgers, develop seasoning adapted to children's tastes, and freeze and pack goods. In turn, the socioeconomic entrepreneur role shifted from business developer to manager of relations between fishermen, the processing/delivery family business and municipal authorities.



Figure 36 Fish processing unit

While this sought centrality gives him an outstanding position within the cooperative members and between the cooperative and external stakeholders (e.g., dietitians, procurement officers, food safety authorities, extensionists), a more participatory management influences the direction of the association.

Indeed, once the socioeconomic entrepreneur began contact with dietitians, it was clear that the quantity and the nature of the organisation (local FF association) were not, by themselves, sufficient attributes to participate in the school food market. Quality of fillets, food safety protocols and taste were also in demand by the municipal authorities. In turn, he began to organise extraordinary assemblies to explore alternatives and set norms to ensure that the quality of APPEsul products was adequate.

This process, of course, did not emerge in a vacuum. Since the creation of the city's support project for artisanal fishermen, they have built up social ties. For example, one fish farmer nicely explained:

"... before the project, we knew better what kind of fish one can fish, when and where, but we did not know each other, and another further clarified, 'I like to know more about with whom we are guaranteeing fish is fit for children than to whom I am selling the fish I catch'. Additionally, the city project also helps to create a sense of confidence with public authorities because they started to say that we [fishermen] are important for the city fish supply and maintenance of the lake. So we began to feel valued." (Association Fish Farmer)

The search for comprehensive and encompassing behavioural rules to secure fish adequacy did not last long. According to the APPEsul director, members, in five or six meetings, established the minimum criteria for the supply of fish and sanctions in case of non-compliance. For fish farmers, the quality criteria include: kind of fish; minimum weights; time frames from collecting fish to delivering to the agroindustry; schedules for each farmer as to whom can bring what fish to the agroindustry and when; and conditions for the rejection of fish after it has been handed over to the cleaning, processing and freezing unit.

For artisanal fishermen, the collectively constructed rules mostly comprise traceability methods and sanctions to those delivering fish in stages of decomposition. This does not mean that APPEsul is unaware of problems beyond its control (i.e. lake pollution, industrial overfishing, city expansion). Yet, the preparatory meetings emphasised solutions for events the newly constructed fish chain can govern. For this, members agreed to invest in new containers that should be marked with the name of each fisherman.

After containers are collected in the lakeshores by one worker from the agro-industry, these are taken to the cleaning building where they are assessed by the cleaning personnel. If any of them find irregularities, this is reported to the association director who, depending on the severity of the case, stops collecting fish for a certain period of time. When the container presents more than the 10% of unusable fish, the case is taken to the general assembly for discussion and assessment of the case. After this, members decide for how long the fisherman should be prevented from supplying fish to the association. According to an employee of the cleaning sector, after the association established the traceability

mechanisms, fish losses decreased from 10% to 2% over the course of a year. Currently, the coop manager reports that losses are now less than 0.4%.

Fishermen also agreed to in order to enhance the quality of their product and avoid to catching undesirable species or smaller fish was to determine what kind of nets or other fishing methods they should use. For this to happen, they posit that APPELUL grants credits, at no cost and without interest, to purchase necessary fishing elements. The payment of this credit is also specific and different from any other credit for FFs. Here, fishermen pay in kind, according to the amount of fish he brings to the association regardless of the timeframe. The larger the credit is, the bigger the portion of fish APPELUL takes to pay back the debt. For example, credit for a new boat involves at least 50% of what a fisherman catches every day being taken to pay the obligation. For smaller credits, members set tariffs between 10-20% of what they bring to the agro-industry.

Another important outcome of these meetings was the structuration of pricing conditions and payments methods. In the first place, fishermen agree to hand over to the coop directives the function of managing official documentation for individual members. After that, they are in charge of managing those documents (e.g., certification of belonging to FF, individual producers' invoices, rural producer registrations, etc.) that are necessary for participating in institutional markets. Secondly, they agreed that the association should pay at least twice the price to intermediaries. To do so, the coop director agreed to increase the price of fish balls by R\$ 2. Since then, the additional prices paid to producers is transferred to the consumers' costs. Nevertheless, they still remain cheaper than industrialised fish sub products. This concern for consumers is also an important feature of the coop development.

The final step in the developing of the association is precisely related to consumer acceptance of APPELUL products. As previously stated, the city of Porto Alegre does not have a strong fish culture, as its rather low consumption rate demonstrates. So, selling fresh fish was only an option during Eastern week when people markedly increased fish consumption for four days.

Likewise, school meals only included fish preparations, or specific fish (tilapia fillet) the week of the Eastern celebration – a situation that school kitchen personnel found acceptable, since the additional time spent cooking fish only occurred a few times. In addition, menu losses due to lower acceptability of fish recipes (in relation to other red and white meats) were not a problem during Eastern week. Besides this time, the school food market demand for fish products was nearly non-existent. Nevertheless, artisanal fishermen do not only catch fish during Eastern week. In fact, they fish between 10 and 11 months every year where tilapia is only sporadically found.



Figure 37 Making and packing fish balls

To tackle more supply than school demand, the socioeconomic entrepreneur began to experiment with the making of fish balls and hamburgers adapted to children's taste. The decision to shift from fish fillets to fish balls/hamburgers emerged in response to school food personnel arguing that at school level, children do not like fish fillets and cooks require more time or additional equipment (i.e., industrial ovens) to make fish dishes. In addition, adding value to fresh fish represents a additional gains of about 30%.

For a period of two years, APPESUL conducted acceptability tests for its new flagship product, 'fish balls', on a monthly basis. To do so, personnel in the value-adding unit began to mix fish of different kinds with spices of local origin, trying to balance the fish flavour in local tests. Once the product was accepted by more than 70% of school children, the new recipe was scaled up from individual schools into the entire school network.

Today, school children are offered fish balls at least once a week. In addition to providing artisanal fishermen with a means of earning a living and bringing in additional income, offerings of fish in schools represents other benefits. One should remember that in addition to having a higher obesity index than the Brazilian average, Porto Alegre is the Brazilian city with highest consumption of beef per-capita. Besides the fact that fish balls from APPESUL are 100% local (see Figure 38), they represent a more sustainable alternative to beef. Typical explanations for this include:

"Purchasing fish from APPESUL is not only about the school law or supporting local FFs. For children in Porto Alegre it is an alternative to what they eat at home - only beef." (Nutritionist)

“Fish enhances the children’s diets in as much as gives more variety to school meals. So far, APPELUL is the only provider which developed a particular recipe for a particular public – children.” (Nutritionist)

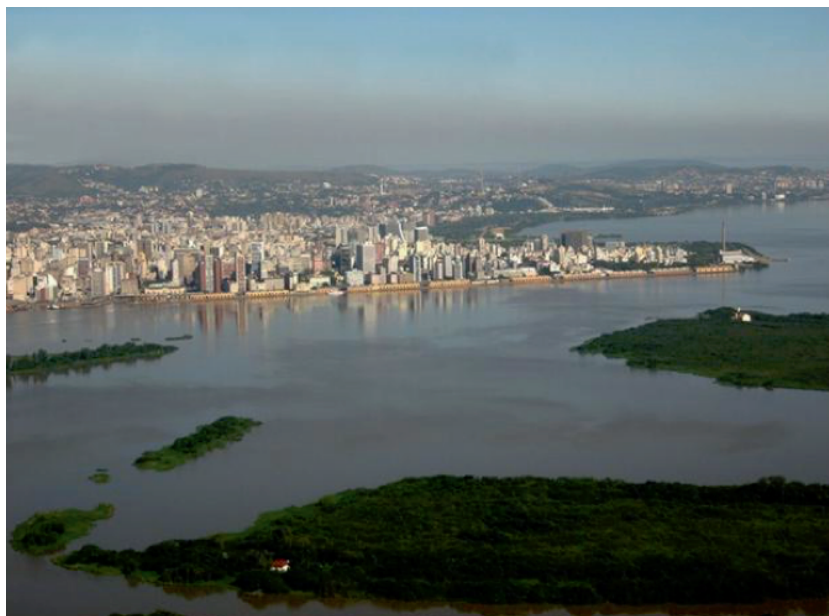


Figure 38 City lakes
(Source: Municipal archives)

Finally, the association director explains that balancing the quality, economic and social needs of APPELUL and consumers is absolutely central to enable the operation of the association within the institutional markets’ environment. For him, expanding to other municipalities would not necessarily contribute to additional layers of wellbeing of members and a good product for children. This is because expanding the membership of fishermen to provide a larger amount of fish would mean enlarging the provision infrastructure, altering mechanisms of feedback or systems of control and changing what is an already stable web of links between producers, the processing factory and the municipality. As the city procurement manager argues, the appeal of APPELUL is this sense of being a *“successful city initiative from supporting fisherman to offering fish in schools”* (Procurement Manager), and a fish farmer stated: *“I think APPELUL is successful because it works with like-minded people”* (Association Member).

APPELUL Governance Approach

According to statutes, APPELUL is organised to commercialise and add value to the fishing activities of its members. APPELUL’s governance structure follows a simple design: general assembly, director, and fiscal council. On paper, the general assembly is the supreme

governance body in charge of elect directives (president and vice-president) and two fiscal council members. In addition, it is in charge of setting and changing statutes whenever members consider it necessary, determining investments with the association surpluses, sanctioning yearly balances, firing administrators and deciding the entrance (or exit) criteria for new members. According to the association manager, participation in general assemblies is low but always at least half of members attend the general assembly.

Directives and fiscal counsellors are elected for a period of two years with the option of re-election. The main functions of the director are to represent APPELUL in institutional markets, manage the documentation of all members and the association, and pay fishermen according to the verbal compromises made at the general assembly and at the moment of collecting fish. The fiscal counsellor's main task is to approve these payments and balance sheets. In any case, directives' tasks are not to be remunerated, but they are authorised to sell fish to the organisation and profit from value-adding or delivery activities.

Since the foundation of APPELUL, the coop director has remained unchanged. There is a general feeling between members that there is no reason to change the director since he has shown the ability to keep compromises assumed at general assembly and adequately deal with conflicts between FFs. In the absence of a periodic development plan, compromises here refer to the buying of fish at better prices than large fishing companies or other market intermediaries. It is also possible to argue that because of the central role of the socio-economic entrepreneur and his family's ownership of the processing unit, members do not have any other alternative than to re-elect the body of directives he controls. While the governance structure is closely linked to legal formalities, in practice the APPELUL governance form is based on the coordination of three interdependent FF groups: a family farmer processing and delivery business; a fish farmers group; and an artisanal fishermen group (see Figure 39).

As delineated in this way, a shared goal of fishermen – that is, participating in the city school food market – keeps this structure together; yet, the social entrepreneur manages commercial relations with public procurement programmes and the eastern fish markets. Here, the processing organisation and the fish farmer himself enjoy the ownership of key infrastructure and is recognised as the most legitimate actor to play the leading role.

This family farmer processing factory occupies a central position because the socioeconomic entrepreneur coordinates the flow of fish from production to processing and from here to schools. It is important to say that APPELUL members did not deliberately choose this governance approach. On the contrary, it emerged from the initiative of the social entrepreneur. Furthermore, his family business provides the administration for the association while facilitating the entrance to institutional markets.

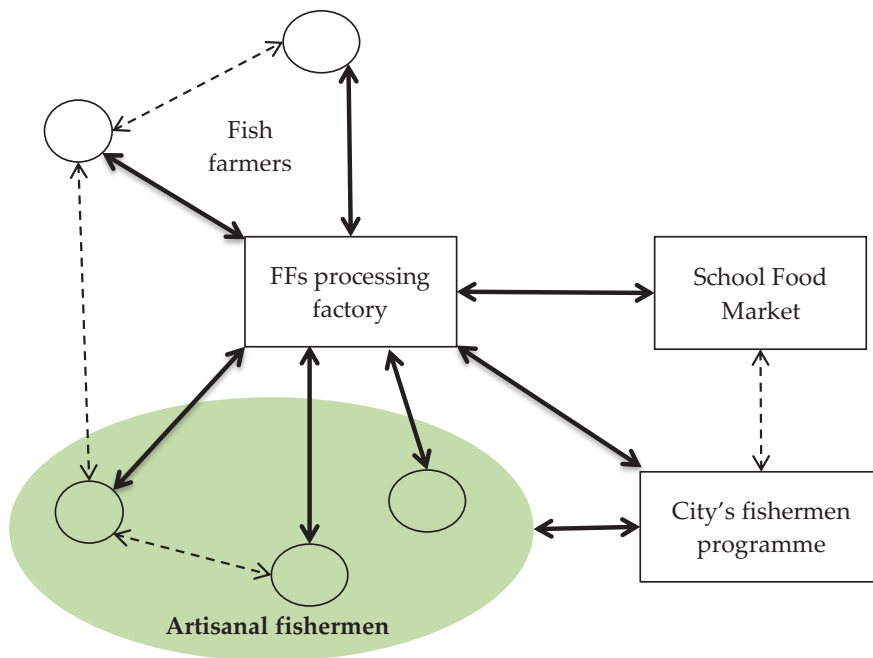


Figure 39 APPELUL governance structure and interfaces

In this governance approach, APPELUL members and groups interact (the 'dotted lines') but value-adding activities and key decisions in relation to public bid offers or food safety parameters are coordinated through and by the business unit of the socioeconomic entrepreneur. While fish farmers' and artisanal fishermen's producing styles or fishing practices are individually conducted, it is at the fish processing factory where other segments of the fish chain are put together (and sustained) in a more or less coherent whole. In this way, coordinates governance processes as to providing a processing and commercial platform for otherwise disperse set of FFs.

Despite members' heavy reliance on the central unit and the lack of control in decision making within it, neither interviewed fishermen nor municipal authorities regard these conditions as unacceptable or oppressing. On the one hand, before the foundation of APPELUL, fish farmers and artisanal fishermen used to sell their products to intermediaries who selected and processed fish in the later stages of the fish chain. In normal circumstances, they paid fishermen a maximum of 30% of what they currently obtain from being members of the association. Furthermore, the payment method is also attractive for fishermen who are paid in cash for what they bring to the lakeshores each day. This is a situation they regard as positive because in typical circumstances, school food market suppliers only receive payments after fish is delivered to schools and a number of bureaucratic procedures are accomplished.

According to APPELUL's director, this method reduces the processing unit gains, yet it is a mechanism demanded by artisanal fishermen since they use daily cash as a survival strategy. It is also possible to argue that control over the food chain is not completely concentrated in the processing unit. Indeed, fishermen in participatory manners influence which fish qualities and quantities are to be commercialised. This is to say that APPELUL's normative system also relies on jointly constructed norms. On the other hand, the inclusion of fish in school menus is regarded very positively, since *"school children are used to eating beef, they are gauchos. Sometimes is fine, but not every day"* (Nutritionist). In addition, procurement officers argue that having only one leading actor responsible for the fish chain reduces city transaction costs at procuring while creating trust between the different city stakeholders. In short, it seems that this model does not bring much resentment or resistance from participants.

Likewise, the seemingly excessive power over the fish supply arrangement is also dependent on the city's expectations of the fish project, in which contributing to the livelihood of artisanal fishermen is the core goal. This is a value that the socioeconomic entrepreneur also shares, and has promulgated since the foundation of the association. Moreover, the city also makes relative substantial investments in the promotion of artisanal fisheries in the city lakes and islands. This contributes to the viability of the processing unit, to the extent it activates its capacity to keep going. This is due to the fact that artisanal fishing produces fish on constant basis, contrary to what happens in fish farming where the focus is Eastern periods and other festivities.

Finally, in the broadening of expectations from APPELUL as simple commercialisation device to a FF enterprise for adding value and enhancing quality, the role of the city's nutrition department is also central. For example, dieticians enabled multiple APPELUL trial/error experiments to find a recipe for fish balls/hamburgers adapted to the age and local tastes of children.

In addition, they included the offering of fish in weekly menus to both reduce the consumption of meat and improve the quality of the menu. These activities, experiments and menu developments are jointly conducted (city-APPELUL), seeking mutual benefits. Of course, external factors influenced this form of co-governance (e.g., school children's obesity). But the point is the following: APPELUL is not only governed by the central processing unit. On the contrary, the key commercial product of APPELUL, the one generating a large portion of the income and the one participating in institutional markets, has been jointly developed and facilitated by the nutrition department. In turn, the processing unit also heavily relies on the members' capacities to supply fish with the qualities matching school food expectations.

The Governance of Collective Devices - An Analysis

The detailed examination of the family farmers collective devices trajectories, governance structures and approaches give important insights to answer the question of how organised smallholders supply the school food market in the city of Porto Alegre. In the following sections, this is discussed by looking at commonalities, differences and case relations with the broader literature.

There are three important commonalities found in these collectivities. The first highlighted aspect is that prior to the creation of institutional markets in Brazil, coop members and the associations themselves were not fully excluded from other commercial channels. This is to say that family farmers had the capacity to produce some marketable products, and the collective devices experienced – to different degrees – what it is to be part of the market economy of food. As a consequence, the city FFs and their associative forms did not have to beg from zero to secure the food supply – a situation which is not usually found in other parts of Brazil or other LMICs (Lozano et al., 2016). Indeed, in the collective devices, individual producers and city authorities found a way to deal with the novel situation of creating and participating in a new localised school food market dynamic.

The second major common aspect is that the coops or associations are designed to be facilitators of change, rather than mere market access instruments for FFs. They do not only differ from the focus of commercial cooperatives on aggregating marketable FF outputs; they are overall action arenas where members and directives find ways to influence each other's meanings, situations and the order of supply chain activities. This is clear when by emphasising the participation of members in the governance of the collective action, members discuss practical problems and solutions through cooperation while claiming ownership over key infrastructures of the supply chain (e.g., transport, value-adding machinery, containers, freezers etc.). Another example is their resolute emphasis to exclude market intermediaries from the supply chain. In turn, they are not passive arenas subordinated to specific rules of a particular food chain or a powerful actor controlling norms and values.

The above-mentioned factors contributed to the construction, organisation and dynamics found in the Porto Alegre school food market. For example, the five associations mediate or facilitate key activities of the supply chain such as production, collection, quality management, and market convention negotiations with city authorities. Even in the case of APPELUL, where the socioeconomic entrepreneur runs, operates and deeply influences the rules of participation, he can be seen as a facilitator of change. In this case, there is no other regional market intermediary who offers similar prices or works together with primary producers to broaden and deepen the access to public policies for FFs. Thus, it can be

argued that collective devices have been developed to bring change to the way that provision practices are organised and governed, without neglecting the need for decent income for their members and FFs inherent values.

The third important aspect is the role of external agents in the emergence and dynamics of different collective devices. Here, state founded organisations have played a key role. From extension services (e.g., COOMAFITT), social movement support (e.g., COOPAN), international cooperation programmes (e.g., ECOCITRUS) to city based projects (APPESUL and ASSP). While these organisations have influenced the trajectory of the coop to different degrees and qualities, they have been fundamental in the formation stages of hardwearing market or political disruptions. On some occasions they provide support during planning stages, at courses, discussion groups, traditional technical assistance or become sources of information. In other cases, they directly back up FF initiatives with the financial resources needed to operate in the light of the limited investment capacity of FFs. Here, access to other public policies for FFs (e.g., PRONAF) is considered fundamental for the establishment of new ways of doing through cooperation in the absence of working capital to make the necessary investments.

Governance Structures

By examining the governance structure found at the FFs' collectivities, the research shows that the legal frameworks for establishing or regulating cooperatives and associations heavily influence particular governance architecture. In fact, Law 5.764, that since 1971 has regulated the cooperatives, establishes that the general assembly is the supreme body of the cooperative, which must be managed by election in general assembly in which each member has an equal vote and no vote is of superior value. In addition to tacitly recognising the democratic character of the collective effort, the law determines that every administration should be assiduously supervised by a fiscal or supervisory council, also to be chosen in assembly.

All the cooperatives studied follow these legal determinations and the ideals of control and democracy of the coop movement (as established in the foundational statutes). The other two FF associations of less complexity also have a fixed institutional structure to the extent that the law requires them to have an official representative (president) and a treasurer. Nevertheless, members of APPESUL and ASSO hardly control decision making in relation to access to markets, pricing mechanisms or investments in infrastructure or economic gains.

It is also worth mentioning that legal requirements and internal statutes prescribe that direction and administration positions are open to any member of the association. In practice, however, there is a marked tendency to re-elect presidents or managers. There are

multiple reasons for this which vary across the cases. In COOPAN, for example, the marketing and commercial competences of the president are advanced for his continuous nomination and election in general assemblies. Likewise, members argue that engagement with coop management activities entails not only marketing or public relation skills, but also additional labour hours within the farming itself. In ECOCITRUS, different founding members have occupied the president position, yet the initiator of the initiative is often elected. For an extensionist this is due to the specific coop governance structure and particular regard to the leader of the initiative. In fact, management of the different coop's value-adding sectors enjoy a high degree of autonomy in everyday decision making and practical issues. In most cases, managers formally appeal to directive and general assembly when large investments and sector restructuring are foreseen.

In ASSO, the president and treasurer have remained unchanged since its foundation as members assign only signatory duties to this post whereas decision making remains a collective exercise. This configuration might be possible due to the small size of the association and the monitoring function that PRRO exerts over production and commercialisation processes.

In APPEFUL, the socio-economic entrepreneur has managed to remain in the presidency since the foundation of the association. For him, leadership, marketing competences and his own investments in value-adding infrastructure are important issues members consider when voting in elections. In this case, artisanal fishermen are also missed in monitoring bodies, and as a result, the question of private interests disguises democratic values and participation becomes instrumental for accessing institutional markets. While resource dependence and power might limit participation and set a sort of hierarchical governance structure, it is also a fact that members' financial returns for belonging to the association are considerably higher than similar counterparts in the hands of traditional middlemen.

COOPAFITT is the only coop that assigns managerial roles to external actors, separating administration/marketing functions from the definition of goals, guidelines of action and priorities. This structure did not emerge in a vacuum as the regional extension body promoted it, especially in light of: the previous history of the coop where initiators' core activities remained in farming and not in marketing; reducing frictions between different productive groups in relation to the coop's buying decisions; and the geographical extension of the coop and the need to connect a wide range of primary products to institutional market needs. In this context, it is important to point out that management remains under direct supervision of the coop directive nuclei, to the extent that the management's core set of tasks are related to marketing and support of crop planning. This is to say that the coop governance structure differentiates between the coop market management and social organisation, seeking to balance participation in decision making through productive groups/directive group and access to institutional market

management.

Another cooperative introducing productive group management styles into the structure is COOPAN. In this case, however, market access management remains in charge in one or two of the coop members, following its internal code of conduct of safeguarding members' direct control over coop management and production activities.

Whether the regulatory framework predefines collectivities' governance structure, it is a fact that regulations are of general character. In fact, the coop law in Brazil does not differentiate between FF groups or other joint efforts, mainly in relation to differentiation between collective and private business. In this context, there are two major repercussions worth discussing in relation to the governance structure of the studied units. On the one hand, the governance structure and the clear differentiation between a cooperative business and an investor-controlled company are somehow predetermined. On the other hand, and in contrast to what occurs at the school feeding law (where normative values demark what ought to be a 'desirable school food system'), is at the coops or FFs associations themselves that meanings, ideals, aspirations or motivation to combine efforts and work collectively are negotiated, established and advanced.

From the governance of practice perspective, this is an important aspect since not only the normative side or the need to have access to markets determines how the organisation of compound practices ought to be. In fact, the social and symbolic significance of acting collectively largely contributes to the reproduction of a particular way of governing the coops and FF associations. Furthermore, as shown in the description of each collective initiative in the methodological chapter, the selected joint initiatives are chosen not because they operate outside of the overreaching procurement market structures, but due to the fact that each has a distinctive character (a sort of sense of collective identity) to what is broadly identified as sustainable food business. In short, the studied collective devices are an expression of both procedural norms (how a practice is to be performed) and ethics (what are deemed as adequate forms of engagement and enactment). Table 11 summarises the set of core meanings, identified in the five cases and often expressed by members in the attributes of the initiative, its positive impacts and discrepancies with other provision arrangements.

Table 11 Summary of core collective action meanings

Acronym	Symbolic meanings of acting collectively	Aspirations/social contribution	Divergence from
COOPAN	<p>Access to land and means of production.</p> <p>Collective ownership and control of means of production and commercialisation.</p> <p>Direct participation in decision making. Secure decent income for members.</p> <p>Sense of belonging to MST. Better access to public policies.</p>	<p>Inclusive agrarian reform.</p> <p>Agroecological transformation of farming.</p> <p>Food sovereignty</p> <p>Generation of agroecological knowledge.</p> <p>Viability of land reform settlements.</p> <p>Shorter links production-consumption.</p>	<p>Specialised, and hierarchical farming styles (patronage).</p> <p>Agribusiness/green revolution led agricultural development, long supply chains.</p> <p>Conventional rice production techniques and markets.</p> <p>Capitalism as the only motor of development.</p>
ECOCITRUS	<p>Search for sustainable agroecosystems.</p> <p>Better quality of life through agroecological farming, reduction on costs of fertilisation, good use of water, direct selling and ownership over value-adding activities.</p> <p>Fairer trade.</p> <p>Solidarity.</p>	<p>Farmer/consumer health.</p> <p>Restore man-nature equilibrium.</p> <p>Concern for the nearby community.</p> <p>Transparency of food chains.</p>	<p>Conventional citrus production.</p> <p>Specialised citrus production knowledge.</p> <p>Monocultures and indiscriminate use of agrochemicals.</p> <p>Lost agriculture-nature balance</p> <p>Low quality of industrial citrus sub-products (e.g., juice concentrates).</p>
COOMAFITT	<p>Improving the livelihood conditions of FF members by delinking intermediaries from the supply chain of fresh and minimally processed foods while selling to institutional markets.</p> <p>Democratic formation of prices paid to members.</p> <p>Solidarity and transparency (honesty as they frame it) within FF members, alongside other FF cooperatives and consumers' nutritional needs.</p> <p>Family farming cooperation as vehicle for maintenance of biodiversity, territory, regional culture, youth and women.</p>	<p>Coordination and organisation of dispersed smallholder FFs by offering practical solutions for the transport, selection, packaging and delivering of primary production to food security institutions.</p> <p>Food and nutrition security with quality products at accessible price for consumers.</p> <p>Inter-FF cooperative cooperation.</p> <p>Promotion of territorial development.</p> <p>FFs base rural development.</p>	<p>Food chain intermediaries, including middlemen and large supermarkets.</p> <p>Wholesale market structures. Agribusiness, green revolution solutions, large-scale farming, lost agro-biodiversity.</p> <p>Export based agricultural development.</p> <p>Unequal access to FF policy.</p> <p>Monocultures.</p>



Acronym	Symbolic meanings of acting collectively	Aspirations/social contribution	Divergence from
APPESUL	Access to institutional markets and city food programmes. Jump over intermediaries. Fair prices. Respect for artisanal fishermen's way of life, customs and market preferences. Local food supplier.	Poverty reduction. Natural and cultural preservation. Nutrition security.	Industrial fishing. Consumer tendencies.
ASSO	Access to city organic waste collection programme. Regularisation of pig farming activities.	Reduction of organic waste disposed at the city landfill clandestine landfills, and the environmental impact caused by the proliferation of dumps at pig farms. Improving the herd's sanitary conditions. Increment of income of pig farmers.	Clandestine collection of organic residues. Urban developer pressures. Non-existence of the formal category 'rural' in the urban developing regulations.

It is important to acknowledge that not all members or managers have the same set of ideals for participating and managing the joint effort. For example, at ECOCITRUS and COOMAFITT, members distinctively assert market, ecosystem (or biodiversity), and better access to farming markets as reasons for engagements with the coop's actions. In the case of COOPAN, an important motivator influencing core values is the belonging to the MST movement. In COOPAN's case, it is also evident that it is organised according to the ideal structure of what a cooperative should be in the eyes of MST, and lately advanced – at least in the case of the organic rice – by COCEARGS and GGAE.

Likewise, the notion of the social contribution of the initiative seems to be more mature at management levels where direct contact with markets, public policies, universities or extensionists influences their formation. This is to say that the collective initiatives are not isolated from external factors and it would be naïve to think that participation motives remain static or unchanged over time. In fact, with the recent focus of public policies on shorter supply chains, collective initiatives' perception of consumers has shifted from passive receivers of items to active actors in the formation of food qualities.

Likewise, FF-based rural development or contribution to local economies and nutrition security are emerging trends in the discourse of members and directives. These new meanings interact with the normalised dynamics of the collective devices so as to renew the coop's identity at different degrees of deepness or embeddedness. This may signal that the transformative values advanced in the school food reform policies coalesce or are being harmonised at the coop level. In addition, it could be compellingly argued that alternative policy values can be mobilised through traditional policy instruments like institutional markets.

Other action meanings like, for example, the right to adequate food, reduction of health inequalities, or accessibility to adequate food are much less (or not at all) discussed in the assemblies of the coops and associations. This can signal that problems at the access side of the food security equation remain distant from the supply side. In other words, despite the shortening of supply, access and availability remain distant worlds when advanced through institutional market instruments.

Collective Devices Governance Processes: Connecting Structure, Meanings and Practices

As the methodology chapter emphasises, governance processes in this work can be seen as emerging from the exercise of governing and a particular governance structure moving meanings into action, and vice versa. Governance processes are, then, a sort of middle layer – a stage in the governing phenomena – between structure, meanings and practices, continually assembled during the everyday management of the collective device. It would

be unrealistic, however, to assert that the varying dynamics and multiple interactions occurring at this stage could be entirely captured. At the end, the formation of operational knowledge is on the move and adapting to external and internal influences. Yet, as shown in the trajectory of each cooperative, there are key governance processes that have assisted in the organisation of multiple provision practices, forming a more or less coherent whole while producing saleable outputs for institutional markets.

In the first place, the creation of inclusive participatory arenas of formal or informal character characterises the functioning of the collective devices at both levels: decision making and planning of actions, with the goal of supplying food to institutional markets. Of course, participation has different qualities and is distinctively practiced as the coop development trajectories and governance approaches show. In the case of APPELUL and ASSP, for example, city food, environmental or social programmes influence the creation of democratic management. In APPELUL, however, there is no guarantee that fishermen's needs and wants are considered – then, little or no decision power is given. ASSP's decision making is highly democratic, but only at the level of collecting organic food waste or when supplying food to schools. Decision making at any other level (e.g., farming, input purchasing, etc.) is individually taken. Here it seems that access to pork food and institutional markets encouraged members' democratic management. Thus, participation hinges upon the additional benefits FF obtain from belonging to PRRO.

The other studied unities do not employ general assemblies as the only mechanisms to engage members in decision making. In fact, the cases show that informal meetings, pre-assemblies and collective planning efforts populate the participatory arenas. In the case of COOPAN, for example, the successful creation of settlement groups and their engagement into crop planning (or organic certification) underscore the importance of joint goal formulation for its particular governance approach.

In COOMAFITT, the division of the coop into productive groups underlines that the creation of inclusive arenas for joint definition of (or solutions to) problems and collective planning are a means of organising participation at multiple levels and scales. In ECOCITRUS and ASSP, the absence of specific groups for different organisational levels appears to be counterweighed at the purposefully orchestrated biweekly or weekly meetings. In these cases, the qualities of democratic exercises also varied. Sometimes, members gather with the specific goal of setting collective norms or rules to meet external requirements (e.g., cooperative law, organic certification). On other occasions, they meet to analyse and define action course strategies, share knowledge and be determinant in the coop development pathway. This does not mean that managers will address every single decision in a democratic manner; rather, they are embedded in what has been estimated as being possible for the coop's members. Conceptually, this governance approach embraces not only democratic commitments, as collective food initiatives often develop and are built

upon solidarity and reciprocity values (Renting et al., 2012), which are key components in the making of more equitable and sustainable food systems.

Either in problem-solving discussions, informal meetings or focused participation exercises (i.e., yearly/semester/monthly planning), it seems that members and directives adjust each other's expectations or ways of doing to organise the supply of food according to the particularities of each case (e.g., institutional markets). In addition to strengthening (or dissolving) commitments to the collective project, such exercises are fundamental to improving predictability and control of multiple sites with market purposes. For example, members and directives – with the assistance in many cases of external knowledgeable agents – jointly identify the necessary soft and hard infrastructures to mobilise food to the commercialisation spheres.

Thus, when materialising coop goals or members' aspirations into actions, symbolic and material adaptations emerge as a mode of governance. By definition, adaptation to circumstances and conditions arises from recognising that there are “...*many cross-scale and cross level linkages in the food system*” (Pereira and Ruysenaar, 2012 p, 42) where food democracy becomes an important vehicle to cultivating more healthy and secure food systems (Lang et al., 2009).

In the case of COOMAFITT, for example, coop managers and primary producers use productive groups to identify barriers and enablers to opening up discussions and narrowing down workable solutions for the benefit of the cooperative enterprise. In this context of continuous forward feedback, the construction of logistical infrastructure permits that smallholders deliver quality food at competitive cost to schools. Over time, these adaptations have assisted primary producers to maintain local cultivars while maintaining a reliable supply for institutional markets.

COOPAN also organises food supply through productive groups, yet adaptations do not emerge as a direct consequence of only participating in institutional markets. Its strong identity and the intention to collectively endure economic burdens coalesce with the creation of multiple competences and agroecological knowledge. At the production, processing and commercialisation level, the regional MST organic rice coop association helps with the financing of key infrastructure and the sharing of knowledge through the support of GGAE. In this case, institutional markets have provided the economic incentive to remain in the activity while enhancing food quality, maintaining the coop's autonomy in relation to its principles.

ECOCITRUS manages adaptations at multiple organisational levels, and scales by adopting methodologies of participatory rural appraisal, making partnerships with other organisations with similar values, and constructing its own infrastructure. Guided

participation is a feature in all cooperatives and is promoted by state extension services for improving the coop's self-governance. Nevertheless, ECOCITRUS is particularly designed to encourage members to moderate participatory exercises and learn the use of participatory methodologies (e.g., visualisation cards, scenario building, etc.) to promote multi-scale learning, participatory culture and inclusive engagement with leadership values. This entails that the coop emphasises that members understand needed adaptations and are empowered to foster solutions. It seems, the coop assumes that practical experience in democratic governance can be fostered through apprenticeship.

In relation to the making of partnerships, they are made not only with an economic goal in mind. On many occasions, partnerships are discarded as they can imply threats to coop autonomy or to the coop's social and environmental values. Likewise, the development of their own infrastructure relies upon their own resources and to shorten as much as possible the relations between production and consumption. In this way, the coop perceives that infrastructure development and ownership enable collective action to generate multiple and mutual benefits, including the viability of ecological citrus farming over time and space.

Like in ECOCITRUS, infrastructure adapted to the coop's needs and the development of 'new' products as a means of shortening the supply chain, participating in niche markets and governing the initiative is another common feature found in all studied units – of course, at different levels. APPESUL, for example, invested in cold rooms, fish processing machinery and product development to be able to purchase all fish from members while ensuring they continue with their mode of life. COOPAN's rice processing, storage, drying and packing unit ensured that the incipient institutional market for organic rice could develop to ensure the economic viability of the project. COOMAFITT fostered the governance relation between the coop and members through the construction of their banana maturation plant and logistical centre. Here, the logistical centre has become the nexus between the large school food market of Porto Alegre and smallholders; that is, to the extent that food qualities are costumed and delivery complexities are managed. Finally, the ASSP developed the organic waste reception centre and PRRO invested in collection infrastructure. Together, they ensure that animal feed can travel from collecting units to pig farmers.

It is also very important to acknowledge that the collective devices are not closed systems, as FFs interact and are part of other FF networks. They place FFs in a dynamic system of collaboration, involving different actors and rural development strategies. According to (Charão et al., 2014), this interconnectedness contributes to broadening horizons by broadening the visualisation of strategic opportunities.

In a way, participatory communication patterns and the construction of own infrastructure

supports what the literature in nested markets (Van der Ploeg et al., 2012, Schneider et al., 2014) refers to as ‘common pool’ resources. On one hand, collective appraisal and decision making help ensure that norms, rules and expectations are normalised and harmonised between the multiple interests of members. On the other hand, the constructed material nexuses ensure qualities are in line with consumer expectations, while providing the space for the movement of food without the need for intermediaries or wholesale commercial platforms. Likewise, the compromises, line of action engagements emerging from participatory arenas or the development of particular material nexuses is similar to what is referred as the socio-material infrastructures of nested market connectivity (Van der Ploeg, 2014). Nevertheless, only COOMAFITT’s and APPELUL’s institutional market preferences are directly considered in the development of socio-material infrastructure. This might lead one to think that they, when jointly designed, can foster the development of alternative systems of provision.

Finally, it would be to naïve assume that emergent operational knowledge and the establishment of own material nexuses are frictionless phenomena. For example, there are no female representatives in the bodies of direction and oversight. Likewise, young people remain underrepresented in participatory forums. In addition to these absent voices, traditional problems of democratic control are also present, such as: limited capacity of self-governance when decisions affect other parties and powerful actors in the food system; impossibility to change regulatory barriers through participation; lack of budget (or financial or state support) to put in motion foreseen strategies; disregard for more holistic strategies in favour of market ones; different degrees of argumentation capacity; managers influencing the direction of participatory exercises; and concentration of leadership/market capacities in the founding members.

Governance of Practicing the School Food Reform at the Collective Devices

At the level of the collective devices, the immediate outcome of the process of governance is the coordination and organisation of the supply chain from farm to schools (or farm to markets in a general sense). According to the methodology, there are two ways to approach this practice alignment question. On one hand, one can take a look at how coops and FF associations normalise goals, targets, avenues for intermediating FFs’ relations with markets, and what means are devoted to enabling the flow of food from family farms to consumers. Alternatively, one can take a look at the shapes of practice arrangements and discuss whether the collective devices govern the provision arrangements by providing elements of practice at multiple scales, promoting the adoption of more sustainable alternatives to current ways of doing, or completely change how different practices interlock to form new complexes of practices.

Looking at how collective devices normalise goals, targets, and avenues for intermediating

FFs' relations with markets, it seems that deliberation (as instituted practice) plays a key role in the making of coop members' compromises/engagements. In addition, adaptation requires the establishment of a discursive practice (participation) where mutual positioning and alignment can occur. In relation to the means, the development of processing/logistical infrastructure – that is, material nexuses – and market competences at management level are fundamental to determining how the compound practice of food provisioning is organised.

Let us take a look at those collective devices founded before the school food reform. They are COOPAN, ECOCITRUS and ASSP. As a matter of fact, this is a key element in the dynamics of governing practices, mainly because those FF devices had already installed the supply capacity before the school food reform. In addition, they were already focusing major bottlenecks in the construction of more sustainable food systems, including shortening supply chains. As a result, it seems that supplying food to the city's school food market is more about adding an extra layer of activities to the commercial side of the coop than (re-)shaping their governance approach.

In the cases of COOPAN agroecological rice and ECOCITRUS, for example, they had already purposefully integrated into the practice governing mechanisms what is often controlled by outsiders and considered forces acting in detriment to FFs' autonomy and income. In fact, since the early foundation of these coops the making of fertilizers, fabrication of seeds and seedlings, generation of farming (agroecological) knowledge, processing of primary production and shortening links with consumption are prime goals. Thus, the pursuance of self-reliance is an important element in the coops' development trajectories. Moreover, COOPAN and ECOCITRUS had some degree of experience dealing with the requirements of institutional markets in Brazil. This meant that at the moment of the school food reform, management had already developed competences to deal with bureaucratic, fiscal and documentation bottlenecks.

While ASSP had already installed the production capacity, it did not have experience with the workings of institutional markets or direct sells. APPESUL and COOMAFITT presented similar situations, and also pursued self-reliance to remake provision arrangements. In addition, the product specificity characteristics (fresh) required them to deliver food directly to schools (not to the central deposit centre, as in the case of rice or juices). It is not only the fact that in this case, transaction costs are higher; it is also about fulfilling sanitary regulations, developing logistical competences and investing in delivery equipment. Thus, the new delivery task together with lack of market experience was conducive to set new governance mechanisms to enable the flow of food from farm to schools. These collective devices also began to overtake those governing activities previously controlled by fish/meat industry, and middlemen/wholesaler arrangements. In doing so, like in the case of COOPAN and ECOCITRUS, they redrew the way in which traditional food chains are

normally patterned in the southern part of Brazil.

Conceptually, the coops achieve and coordinate the (re)patterning of the supply chain through the control and ownership of the means and resources¹⁴⁶ by which supply practices are interlocked. In addition, they directly allocate or circulate elements of practice into the different components of the new provision arrangement with the goal of improving the reliability of supply or coops' performance when accessing markets.

While the overall meanings and aspirations have already been discussed in the previous section, when it comes to organising practices, collective devices also circulate, manage and adapt certification requirements (e.g., sanitary, agroecological, fiscal, etc.) as a mode of governing actions at the level of primary production. In addition to covering the costs for obtaining certificates, all collective devices generate and oversee specific guidelines to what is considered an adequate product to be bought by the coop and commercialised in institutional markets. In addition to securing the simultaneous certification for all members, the existence of such guidelines might signal that at the level of collective device, the provision arrangements belong to compound practice rather than a single integrative practice (Warde, 2013) – thus, object of governance. Likewise, coops and associations develop minimum quality standards to allow members to participate in institutional (or other) markets. Indeed, all of them have clear rules of what products can be commercialised in which channels.

Paralleling the construction of guidelines, collective devices also specialise in the development of market and logistical competences. With the exception of ECOCITRUS, which develops market skills through selling to retailers and export of essential oils, the other collective devices fostered marketing competences through their participation in institutional markets. In particular, PAA gave them the necessary knowledge to adequately perform in PNAE once the school food reform was enacted. Hence, learning how to shorten the supply chain is a matter of practical activity by engaging in such tasks. Although some primary producers brought with them their experience of selling products directly in local markets, it is at the cooperative level where knowhow about market, domestic, civic and industrial conventions is learnt and used as a governance tool through the members. For Schneider (2016), this is a key characteristic of FFs' participation in markets, as knowledge generated in institutional markets can potentially be transferred to other markets with the goal of reducing dependence on state programmes.

At the coop level, managers display market competences in other ways. For example, they are able to negotiate what the coop is in fact able to provide. This is because by knowing

¹⁴⁶ Governing resources include capabilities and infrastructures, including artifacts and gathering places (Nicolini, 2013).

the cooperative/institutional market underpinnings and members' set of needs and wants, they tune into the horizon of practicability as to whether the coop can accomplish a public offer. They do not only include primary production concerns, but the overall capacity to deliver demanded quantities and qualities within a specified time. As a result, it seems that there is a specialisation for market access skills at the collective device management. Whether this can be conducive to patronage, the fact is that without such specialisation the governance of the collective initiative could be impractical. In fact, ASSP – the only collective device without a formal market manager – encountered the largest problems in remaining a provider of the city school food market. On the contrary, the complex level of logistics exhibited at COOMAFITT required the coop to hire a dedicated team to deal with logistics in order to participate with leafy products in large institutional markets.

The material nexuses vary according to each collective device and do not largely differ from their similar counterparts in the traditional supply chain, often depending on product specificity (e.g., primary production, milling/processing, storage, transportation, wholesaling/retailing, consumption; or pork production, transport, industrial abattoir, retailers, consumers, etc.). Perhaps one exception is ECOCITRUS, as due to its scope of action has integrated particular artifacts to enable the making of compost, essential oils and biodiesel.

What is key, however, are two things. On one hand, material nexuses have been developed according to the particular needs of members to attend (or create) specific member needs, markets or consumers. Even in the case of the previously mentioned coops, infrastructure is developed to serve coop members first, and then the region, where members sought to offer the service of organic waste management as a means to contribute to agroecological transitions and the betterment of the regional environment. For Seyfang (2009), this can be seen as bottom-up infrastructural development that enhances processes of self-governance, because they are expressions of collective agency seeking to do things differently.

The other particularity of material nexuses is that collective devices do not use highly complex technology to connect producers with consumers. For example, APPESUL gives portable freezers made of polystyrene to every artisanal fisherman to secure food safety. Likewise, ASSP collects organic food waste in reusable plastic containers. At processing level, both use labour-intensive machinery to add value to primary production. Transport is also made in middle size trucks. Likewise, traceability mechanisms are adapted to the conditions of each collectivity. COOMAFITT visually categorises leafy vegetables and fruits while using Excel sheets to track products from production to schools. Even in the case of ECOCITRUS or COOPAN, non-processing or packing activities have been automated. They are people-dependant and usability rules are far too complex. In short, the simplicity of constructed material nexuses allows coops and association members to

empirically engage in alternative ways of doing. Hence, they are adapted to the reality of FFs and the scale of the initiative as a means of enabling the governance of the provision arrangement.

As mentioned earlier, one can also take a look at the shape of practice arrangements and discuss whether the collective devices govern the provision arrangements by providing elements of practice at multiple scales, promoting the adoption of more sustainable alternatives to current ways of doing, or completely change how different practices interlock to form new complexes of practices (Schatzki, 2015; Spurling and McMeekin, 2015). Well, here, the answer is much less straightforward as all collective devices employ the three strategies to coordinate and organise the provision arrangement.

In relation to the provision of elements of practice at primary production level, for example, COOPAN allocates land, labour and develops poly-competences to enable a unique farming style to emerge from the collective ownership of the means of production. ECOCITRUS supplies primary producers with compost and required labour when there are labour-intensive tasks at farm level. Likewise, it develops (and circulates) agroecological knowledge of citrus production. ASSP and PRRO collect and distribute animal feed and give technical assistance to pork producers. APPELUL provides fishermen with portable freezers and gives credit to artisanal fishermen to buy boats or fishing instruments whenever needed. Although COOMAFITT does not directly provide elements of farming practices, it purchases FF produce at fairer prices, allowing the activity of farming to continue. The other collective devices also commercialise primary production.

When promoting the adoption of more sustainable alternatives, it is clear that all collective devices are engaged in changing the way conventional farming is practised, value-adding is achieved, and commercialisation is performed. Indeed, ECOCITRUS, COOPAN and COOMAFITT are actively engaged in giving viability to agroecological transitions. APPELUL makes artisanal fishing a viable livelihood strategy in the city lakes. These four collective devices have also shortened all supply chains (a more sustainable alternative to longer arrangements), to the extent they delink intermediaries and wholesalers from the supply chain. Although ASSP still sells the vast majority to the industrial and regional abattoir, it uses organic waste in an alternative fashion as animal feed and not as typical food waste or illegal collection of organic residues.

Whether or not the re-patterning of the provision arrangement corresponds to new ways to interlock the provision practices largely depends of the point of view of analysis. If one comes from the perspective of the supply side, it is clear that all collective devices rearranged the supply chain so as to take over activities previously in the hands of third parties. They also re-pattern the distributional logic of total value, channelling additional income to primary producers. There is a new arrangement of supply practices to the extent

that the flow takes different paths in time and space. It also could be compellingly argued that coops have become a locus for the creation of reciprocal relationships (within FFs and between FFs and coop managers) of symbolic value, giving substance to the meaning of collective action and creating relational spaces adapted to smallholder farming. Thus, it departs from more entrepreneurial and individualistic family farming styles, largely connected to markets through agri-business complexes. Furthermore, it also differentiates from other 'alternative' initiatives, to the extent *"that hold promise for overcoming the pragmatic and political limits of some of the more individualistic approaches in the local/sustainable food movement"* (Anderson et al., 2014 p, 3). In short, from the perspective of primary producers, it can be argued that the studied collective device coops have symbolically and materially rearranged the way that FFs connect to the wider system of provision practices.

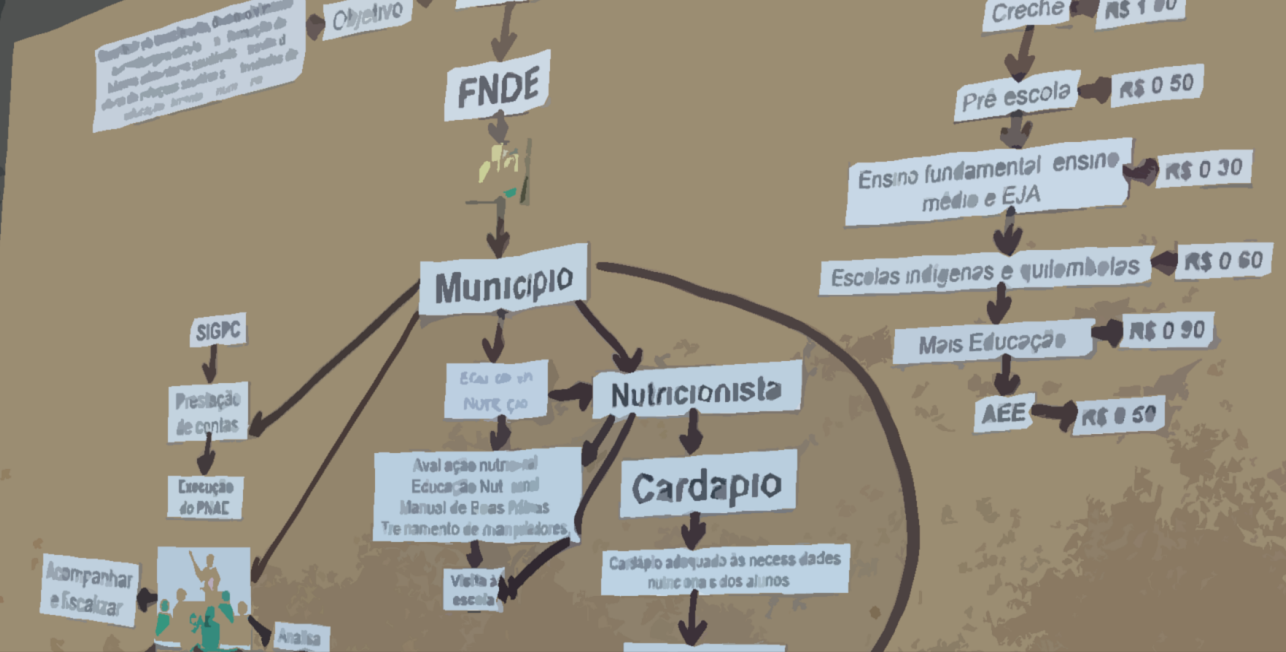
If one comes from the consumer's perspective, the situation looks a bit different. In fact, due to the large volume of products, collective devices often use retailing platforms to allocate food that could not be directly sold. Likewise, most consumers do not directly take part in the coop's decision making or participate more directly in the organisation of provision practices in a meaningful (or cooperative) way. In the case of direct sales, for example, studies in Brazil reveal that in many cases only consumers with enough purchasing power (or sustainable food competences) partake in the country's alternative food movement.¹⁴⁷

Of course, this is a black and white picture, but the point is that only when one brings the institutional market variables into account (PNAE and PAA) do provision practices interlock differently. In fact, they connect vulnerable consumers to the provision network by: channelling the food flows to food security programmes seeking multiple benefits at the two ends of the food equation; promoting joint governance and collective food planning between coops-cities; using non neo-liberal frameworks (or competitive procedures) in public bids; adapting consumption to the realities of FFs; encouraging the adoption of healthier, regional, or more sustainable diets at school levels; intervening the special arrangement of production-consumption links; and providing a medium for emerging collective devices to grow, contribute and interlock to the broader, yet emerging, complex practices of civic food networks aiming to reconstruct the domestic food system.

In short, the consumption side of the food equation cannot be put aside if the goal of a public policy is to create a system that demands local (or regional) FF foods as a means of addressing the Brazilian food and nutrition security challenges in a sustainable fashion. The school food reform holds this potential because it rearranges the physical and symbolic

¹⁴⁷ One exception could be the Eastern week fish market. Nevertheless, decision making in this this association is heavily influenced by one individual who owns the value-adding and distribution infrastructure. Thus, although fishermen get higher prices, their dependence on third parties remain unchanged.

distances between production and consumption by creating new procurement practices that, in a single framework of action, bring together FFs' needs and consumption demands. Despite this fact, it is also valid to argue that in the case of Porto Alegre, interlocking practices in a new way is possible first and foremost because of the existence of FF collective devices. They conceptually resemble the 'missing middle' (Morley et al., 2008) that enables the practical aggregation and distribution of products from several primary producers to large-scale social consumption, while maintaining their collective identity and fostering shorter connections to consumers.



Chapter seven: Conclusions, Discussion and Final Thoughts

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Chapter seven: Conclusions, Discussion and Final Thoughts

This thesis aimed to understand the nature of the school food reform in Brazil and the dynamics of constructing more sustainable and secure school food systems. The nature of and how the new school food law came about was presented, discussed and analysed in Chapter Four of this thesis. Chapters Five and Six dealt with the dynamics of practicing the school food reform in the city of Porto Alegre. Together, Chapters Four, Five and Six correspond to what is described in the methodological section as the multiple research sub-units, where the school food reform in its entirety is seen as the embedded case study. These units were analytically connected by means of designing a heuristic device; this was presented in the methodology chapter, including its epistemological basis, advantages and shortcomings. I deliberately developed this tool because of both the relative success of the school food reforms in the city of Porto Alegre, and my personal interest in the study and explanation of how school food system change may be studied.

The attention to both the nature and dynamics of school food system change did not emerge in an introspective vacuum or desk exercise. On the contrary, my appointment as Early Stage Researcher at PUREFOOD and my work at the Federal University of Rio Grande do Sul equally contributed towards shaping my research design processes and outcomes. Indeed, while the PUREFOOD project sought to improve understandings of developing alternative food geographies, my work in Brazil continually emphasised the importance of contextual specificities when addressing rural development and food questions in Brazil.

In the following sections, I close this thesis by presenting and discussing what I consider to be the major conceptual and methodological contributions of my work. However, I would like to point out that explicit theoretical reflections on the value of the chosen conceptual perspectives to understand the nature and dynamics of the school food reform have been addressed in the discussion section of each of the empirical chapters. Conceptual findings are built upon the literature reviewed in the theoretical chapter and in the conceptual underpinnings of the analytical framework. The methodological reflections are mostly the result of thinking in the pros and cons of my fieldwork and thesis writing experiences. After presenting these major findings, I finalise the thesis by suggesting what I think are interesting research paths that can enhance, refine and challenge this work.

MAJOR FINDINGS

In relation to ethical, social, and creative public food procurement

Public procurement is only one part of the puzzle of making more sustainable, just and secure school food systems. As discussed in the second chapter, the literature on sustainable procurement

considers public food acquisitions the “most” powerful instrument for creating sustainable school food services (Morgan and Sonnino, 2008, Morgan and Sonnino, 2010a, Morgan and Morley, 2014). It is a fact that public procurement can be creatively used to discourage unsustainable procurement practices, create more attuned agri-food economies, maintain shorter links in supply-demand relations and advance food-nutrition security goals. In doing so, public food procurement is able to disrupt conventional provision practices, including low cost-based contracting forms, school food market monopolies and delivery of nutritionally inadequate menus.

While these connotations remain valid, as this work shows, the school food reform entails far more than redesigning procurement policies and procedures – for example: how to shorten supply-demand links when, in the first place, there are no school food cafeterias, dining personnel are missing, dietary guidelines do not advance the promotion of health and adoption of more sustainable diets, or the school programme relies on a very tight budget, food aid or intermittent donations; how can family farmers become providers of food for large cities whenever supportive policies and programmes for them simply do not exist or access to policies and markets are the privilege of a few well-off primary producers? and; do cities have access to relatively reliable, affordable and territorial family farmers’ food in the context of malnutrition? Equally important is the question of who is the target of the school food service? Is it a universal right or is it designed to attend to only a few students in a small number of schools in remote areas? The list can continue growing, but these examples are mentioned to make a point: in the context of LMICs in Latin America, the potential of public procurement remains constrained, as other key elements of the school food system are absent or in bad conditions to offer an adequate school food service.

Changing regulations to endow the use of standards designed to favour local family farmers does not immediately translate into the lifting of entrance barriers. The literature on public procurement signals that the major barrier to setting omni-standards is a procurement regime advancing neoliberal precepts of costs minimisation, transparency and competition (Morgan, 2014, Morgan and Morley, 2014, Sonnino, 2010, Lozano et al., 2016). As shown in Chapter Three, Brazil challenged these principles once the new school food law came into operation. This change, however, is particular to school food and PAA, meaning that any other procurement process must continue to abide by the rules of the game established under general procurement law. Likewise, both programmes have their own governance structure and compliance mechanisms. On the ground, this means that while public procurement authorities continue attaching utmost value to neoliberal-like principles of procurement, school food managers commit to the changes made in new school food law. As is shown in Chapter Four, the response of the city of Porto Alegre was the creation of a formal hybrid procurement framework – conceptually linked to the exercise of collective reflexivity. This signals that implementing new procurement frameworks is a continual process of situated negotiation rather than a passive process of consensual determination.

Decentralisation can enable or hinder school food reform efforts. Empowered local authorities can be responsive to the needs of the school food programme while adding a budget to food procurement, investing in infrastructure, capacity building, using local knowledge, and constructing or circulating attuned policy meanings across multiple school sites and city actors, etc. Likewise, decentralisation enables the creation of necessary spaces of manoeuvre for family farmers to bring food from farms to schools (flexibility of procurement procedures and adaptability to smallholder conditions). This has been fundamental in enabling the emergence of alternative food geographies in Brazil at multiple scales (i.e., re-localising school food systems, constructing markets for family farmers and embedding PNAE into an integrated strategy for food and nutrition security). Alternatively, devolution of power and controllability of procurement processes means that new ways of doing (e.g., linking family farmers to schools) inevitably face changing city hierarchies, political processes and benchmarks. Here, a powerful actor's point of view can, for example, redefine the target (e.g., allowing the entrance of commercial or large-scale cooperatives or hiring out the school food service to caterers), follow lower price policy for family farmers foods (e.g., adopt price lists of conventional suppliers as reference or restrict the purchase of agroecological products) and determine how schools should link to PNAE (e.g., devolving procurement power to individual schools). In this context, decentralisation may act as a deterrent to school food policy reform. Hence, decentralisation's contribution to shortening links in supply-demand largely depends on the circumstances.

Reflexive governance processes can effectively deal with the challenges emerging from the new food equation, yet the design of appropriate governance structures and establishing supportive legal arrangements are fundamental so that patterns of interaction can be scaled out in time and space. PLANSAN's adaptations illustrate the state-civil society response to the changing dynamics of the NFE. In PLANSAN 2012-2015, for example, emphasis was placed on ensuring that the food and nutrition security programmes and actions were cross- and inter-sartorially managed. In the next PLANSAN, this challenge became secondary – as advances in the construction of SISAN are substantial – and core efforts are currently directed to promote the formation of healthy and sustainable food systems. PLANSANs, however, are only the tip of the iceberg. Indeed, both are the result of formalising the National Policy of Food and Nutrition Security policy whose priorities emerge from institutionalised participatory spaces like food security conferences, CONSEAs and CAISANs. Furthermore, these institutions are legally supported by the inclusion of the right to food in the country's constitution.

At city or implementation level, changes in school food/procurement laws become practicable once stakeholders learn the whereabouts of new ways of doing. The case of the city of Porto Alegre reveals that pilot projects were fundamental in scaling up (or normalising new ways of doing). Indeed, the design and practice of pilot projects proved to be fundamental in the

emergence of the city's capacity to relate and coordinate multiple practices at once. Such capacity does not emerge in a vacuum, as pilot project managers and involved stakeholders: 1- identify what elements of practice are needed to disrupt traditional provision trajectories; 2- make available new elements of practice, including new capacities and infrastructure; 3- organise and coordinate the linkages between practice; and 4- design strategies for overseeing that the new compound of practices remains connected and is contributing to the school food principles.

In relation to food programmes as markets for artisanal and local family farmers

Regardless of the size of the school food market, smallholder farmers can be effectively linked to school meals. It is often assumed that in most cases the links between smaller scale farmers (i.e., semi-subsistence family farmers) and large school markets is unworkable and, when it is, procurement authorities establish contracts with local traders (intermediaries) who control the revenue stream. From the buyer's perspective, smallholders cannot directly participate in large school markets in the light of very limited budgets, the high transaction costs of dealing with multiple parties, and the need to secure a reliable food source. From the producer's point of view, these are unattractive market types due quantity/quality requirements and mismatches with traditional commercialisation practices (e.g., cash payments, credit needs, etc).

What the research shows is that what matters is not the scale of the family farmer or the type of market; what counts is the substance of the connective sociomateriality. Here, I am thinking of two collective devices studied in Chapter Six: APPEL and COOPAFIT. In both, very small food producers (weekly fishing in high season no more than 10kg or producing spices in less than 200 square metres) supply the city of Porto Alegre. To do so, they bring together mid-size and small size family farmers to resolve the problem of quantity. Together with municipalities, they constructed a new set of qualities (different from those established at the regional wholesale market). Internally, collective devices adopt cash payments whenever needed, facilitate advance purchases, prioritise the purchase of food from the smallest FFs and set pick up places not far from the production site. Conceptually, linking, connecting, threading or interweaving different scales, farming styles and practices into one provision arrangement is about the capacity of the collective device to provide a material and social basis for this to occur in the first place. This might indicate that scale relations are of secondary significance as the outcome of a provision arrangement is closely tied to how members organise and coordinate in what way multiple practices interconnect.

Building upon the previous point, *it can be argued that FFs' collective devices can mediate their relations with large food markets without requiring primary producers to become entrepreneurial themselves.* It is contended that as the size of the school food market increases, public

procurement managers tend to give more importance to economic relations (competitiveness, price, volume) than to social benefits (Conner et al., 2012, Buckley et al., 2013, Kloppenburg et al., 2008). Likewise, value chain led policy recommendations maintain that the participation of family farmers in large markets rely on their capacity to become more entrepreneurial (Espejo et al., 2009, WFP, 2015a). This thesis, however, shows that when democratically constructed, FFs' collective devices can: 1- offer competitive prices to cities and members; 2- support family farmers in the search for control over markets, and; 3- promote the values of shortening supply chains, including reconnection of producers and consumers, more equitable payments to primary producers, valuation of agricultural traditions, seasonality, etc. In this context, the value of cooperation goes beyond the ability to aggregate supply and provide logistical solutions. They are relational spaces where family farmers can exercise participatory decision making, construct solidarity links, share knowledge or experiences, and experience the meaning of what it entails to have more control over food systems. In turn, they have the capacity to nurture the emergence of alternative farming practices and provision arrangements.

What determines the type of market and its contribution to rural development goals is the process of structuration. Structured demand is a normative concept advanced to promote the adoption of procurement policies targeting smallholders to increase income and reduce poverty (Sumberg and Sabates-Wheeler, 2011). It contends that predefined quantities/qualities and rules of participation create predictable sources of demand for suppliers (small farmers) (IPC-IG, 2013). Via economic rewards (or better prices), this is believed to reduce market uncertainties and encourage better product quality (WFP, 2015a). Nevertheless, if one contrasts the discussion of the chapters of this work with these observations, a different conclusion may be advanced: there is no such thing as "structured" demand. It is a dynamic market, under continual construction, where stakeholders constantly interact to frame problems, propose solutions and try out alternative ways of doing to find suitable solutions. This also entails continual adaptations at multiple levels and scales – from procurement policy, municipal values, procurement procedures, quality/quantity standards, school menus, delivery options, transportation, collection, selection, packing, etc. In this context, how the school markets come to be is what might determine its potential to contribute to more sustainable forms of rural development. From the FF's perspective, the benefit of joining school markets, thus, stems from their capacity to negotiate the conditions of participation.

School food procurement for family farmers is more than a policy instrument designed to create markets or increase incomes. It is argued that under price pressures and high transaction costs, social values (e.g., trust, reciprocal relationships, etc) are of vital importance to ensure the normal flow from farm to schools (Buckley et al., 2013, Triches and Schneider, 2010). This was observable in the interviews and informal field talks. However, are economic and social values alone accountable for giving meaning to the experience of participating in

school market transactions? Well, apart from the financial and social stimuli, many FFs and coop managers are extremely proud and find joy when taking part in them. On the one hand, they see them as the materialisation of their historical demands for markets. On the other, knowing that children and food insecure people are eating what they produce is regarded as a major contribution of the collective effort.

PNAE in Brazil has the potential to nurture changes in the way food is produced and marketed at multiple scales, at the same time; however, dependency on school food markets may be a source of vulnerability for FFs' collective devices. When collectively constructed, institutional markets promote multiple adaptations at the supply side, including the embracing of school food principles (e.g., food provenance, seasonality, diversity, etc); the formation of knowledge (e.g., institutional market and logistical competences); and the construction of new provision infrastructure. It also seems that this nurturing capacity is related to the dependence of the supplier on school food markets¹⁴⁸. For example, the thesis shows that in those two collective devices with higher degrees of dependence on school food transactions, governance processes and provision practices are organised in such a way that compromises made during negotiations with cities are followed. Such engagements with adapting, changing or innovating are less intense in suppliers who had already installed the supply capacity before the school food reform.

Paradoxically, however, streaming governance efforts to create alternative provision arrangements for school markets can be a source of resilience and vulnerability. In the first case, institutional markets create protective spaces for the FFs' collective projects to emerge and stabilise, before they are able to scale up and out its ways to other markets or consumers. But what happens if the FFs association's main market remains the school meal programme? Well, specialisation and dependency, according to the literature, is conducive to vulnerability (Schneider and Niederle, 2010). Indeed, cooperatives specialising in institutional markets can be trapped in vagary of political changes, changes in the administration of the programme, or simply dismissed in the procurement processes as new providers are linked to the programme.

In relation to school food programmes as elements of a food security strategy

In spite of changes in the perception of the contribution of school meal programmes to food security outcomes, productionist approaches to food security, nutritionalism, and cost-based public food procurement act in tandem and remain influential in the configuration of school meal programmes in the city of Porto Alegre. In electronic bid processes, school menus are still valued in relation to the caloric contribution to pupils. At desk level, this work is done with the help

¹⁴⁸ Of course, in this process, other stakeholders intervene as individual FFs and cooperatives interconnect with (and belong to) other suppliers, extension agencies, universities, public policies, and civil society actors. This is the reason the verb 'nurture' is used instead of 'induce'.

of a computer programme that after inserting the menu components, ponders whether or not the menus provide what is required by the school food law (30% to 70% of caloric daily needs) and in relation to the budget assigned to each menu. As studied in Chapter Five, the electronic bid system is supported by a conventional provision system based on the intensification of agriculture, long distance travelling and the monopolisation of the school market. The problem, then, from a conceptual point of view is that whereas these organising principles continue to be supported and practiced at city level, alternative visions of procuring food and configuring school menus are seen as deviations. Likewise, it can be compellingly argued that changes in the school food law foster new procurement strategies, yet procurement values remain unchanged. Hence, the option of scaling up (in the sense of making public calls for family farmers the new normal) is strongly opposed by what – over years – was institutionalised as good procurement practice.

When politically supported right-based approaches to food security have the capacity to provoke radical transformation in school meal programmes. As widely discussed in the conceptual chapter, the right to food framed as food security is part of the moving of food security questions to the consumption or access side (see, e.g., Jarosz, 2014, Maxwell, 1996). In Brazil, this shift meant to declare school food as a constitutional right, making PNAE a programme of universal character. This is the first radical transformation: from scattered initiatives to covering more than forty two million students. This shift counted with wide political and civil society support at the time of the country's return to democracy.

The second radical transformation occurred at local level when, through the support of three consecutive governments, the city framed school food principles as the right of every student to have access to a decent and nutritionally adequate meal. This framing was part and parcel of the total remaking of the school food programme in the city of Porto Alegre, including the immersion of the programme into the educational experience, creation of the nutrition department, civil society participation, construction of refectories, kitchens, dining bars, etc. In this context, public food procurement was instrumental to the fulfilling of the right to school meals. At the same time, however, it remained largely in the hands of large contractors, and only scattered experiences linked family farmers into school meals. The third radical transformation was the embedding of PNAE into SISAN. Indeed, after the institutionalisation of PNSAN and the inclusion of the right to *adequate* food for all people (not only students) in the Brazilian constitution in 2010, PNAE became the cornerstone programme of SISAN. Since then, PNAE procurement frameworks have broadened their initial focus on public procurement as driver of food and nutrition security – that could be enabled independently of the kind of supplier – to embrace new policy values like targeting local family farmers and land reform settlers, favouring agro-ecological and non- or minimally-processed foods, setting fairer payments to primary producers, and increasing empowerment and civil society participation in the food councils. Thus, the move from the right to food to the right to *adequate* food implies that

PNAE broadened its initial goal of guaranteeing food access to include production issues in compliance with dietary and health needs.

It is at the implementation level where the school food reform's potential to respond in a more radical, progressive or passive way to the whereabouts of the new food equation is determined. In the literature, the new school food procurement law in Brazil is seen as a radical departure from the neoliberal public procurement regime (Sonnino et al., 2014a, Schmitt et al., 2014). In large part, this is because the new law opposes the dominance of large-scale food providers and supports the inclusion of ethical, social, dietary and sustainable rural development considerations. At the implementation level, however, these values are collectively modulated, reinterpreted, accommodated and advanced.

In the case of the city of Porto Alegre, for instance, it can be argued that the city procurement framework stimulates the participation of sustainable family farmers associations by blocking the entrance of commercial cooperatives. It also supports key food sovereignty principles like participation in the governance processes of market construction, control over domestic food security systems, agro-ecological transitions, increased market stability, and farmer autonomy. Likewise, as it is currently designed, the city meal programme gives access to all students, nurtures healthier eating habits, reinforces the sense of collective responsibility when designing/cooking school meals, and promotes nutritional education and social control.

The aforementioned radical response goes together with actions that can be found within the progressive trend to construct more sustainable food systems. Pilot projects are a clear example where the city builds a common understanding about the whereabouts of implementing a collectively proposed strategy. In a more detailed account, however, other features are equally relevant. For example, the empowerment and mobilisation of resources to create, maintain and expand the nutrition department signals that the city's compromise with school meals extends over political and bureaucratic changes; the engagement of multiple stakeholders in the process of deciding what to cook, when, how, as well as the development of infrastructure, indicate that participation and reflexive communication underline the construction of school food systems; the emphasis on asserting the collective rights of students to have access to adequate school menus and diets is accompanied by the formation of school food competences from dietitians, technicians in nutrition, cooks/kitchen personnel and students; and finally, the sense of belonging to the school food reform extends beyond its primary stakeholders and users, as school food strategies and actions are made accountable to civil society actors through the enactment of an active school food council and participation of FFs in the construction of school menus.

While many school food strategies feature radical or progressive responses to food crises, another equally important element of the "hybrid" procurement strategy follows a

business-like approach. On one hand, the majority of food is purchased through electronic bid processes that in one way or another are based on neoliberal procurement principles and agri-food economies of scale. Indeed, its procurement principles are ramifications of the general procurement law (lowest monetary cost for the city) while advancing orthodox economic theories of “perfect market”. On the other, it continues to rely on industrial conventions to set quality and food safety standards which also reduces the space of manoeuvre for family farmers to participate in the school meal programme.

In short, the implementation of the school food reforms in the city of Porto Alegre entails a threefold process that simultaneously: 1- challenges the fundamental precepts of productionist food security, 2- provides universal access to adequate food even though in some schools the taking up figures do not surpass forty percent, and 3- appears to be holding the potential of the new school food law as procurement authorities cap the participation of family farmers to a maximum of 30% of the federal budget. In this way, it seems that the school food reform in the city of Porto Alegre advances a mixture of agri-food systems and values. This raises questions such as: What are the implications emerging from this mixture for nurturing food system change? What are the consequences for consumers and producers? However, these questions are beyond the scope of this work, but would be interesting avenues for future research.

In relation to the analytical framework

The analytical framework I have developed for this thesis has proven to be capable of providing a valuable contribution to three conceptual storylines. Firstly, it was a useful tool to study the *no longer missing middle*. According to (Morley et al., 2008) the ‘missing middle’ is a concept to signify a rift of scales between the city and the rural (the gap between governments, consumers and producers) as a product of industrialisation of agriculture and its socio-material constructs. This concept emphasises the need for a constructive mechanism by which nearby small producers can collectively be linked to large customers. Working on the peculiarities of this middle Stahlbrand (2016) argues that the connective tissue entails the construction of both physical infrastructure and share governance arrangements (e.g., school food councils, canteen committees, etc.). Often, the emergence of shared governance arenas is based upon social relations (e.g., trust, reciprocity) and the agency of social actors (school food champions or social entrepreneurs) seeking ‘real’ change are what enables (Triches and Schneider, 2010, Sonnino, 2010, Galli et al., 2014).

This thesis confirms the aforementioned claims, but the analytical framework can be used to dig and explain the workings of such collective structures of meaning making. In doing so, it was possible to claim that in the case of Brazil, the missing middle is filled up with multiple interactive governance arenas – some institutionalised, others in the making. At multiple levels and scales, these reflexive governance spaces continually create, maintain

and nurture relationships that are critical for family farmers, municipal authorities, consumers and their multiple connections and relationships between formed links.

At national level, for example, state and civil society interactions have a history of normalising reflexive governance. Observation of this was possible due to the study of the evolution of school food policies and the processes of institutionalising CONSEA, CAISAN and CAEs. In this governance arena, civil society and the state interact, reframe problems, develop indicators and oversee processes of policy implementation. These governance spaces have been fundamental for the creation of links between federal, state, municipal and school levels, suffusing the middle with new meanings and policies aiming to facilitate the formation of more sustainable food systems while fostering engagements with the goals of PNSAN. At the supply side, the study of FF cooperatives' trajectories also shows the importance of institutionalising reflexive governance arenas as a means of coordinating collective provision practices. At this level, the interaction between family farmers is not only about understanding the middle and framing action strategies. The thesis shows that they have the potential to recraft, substitute or interlock supply practices by introducing new elements of practice, choosing to cooperate instead of individual action or interlocking supply-demand to form alternative complexes of practices.

The case also shows that there are other governance spaces, of more temporal character, enabling the link between FFs and schools. They have recently emerged, as the implementation of the school food reform entails first and foremost cooperation and multiple adaptations. Here, the key contribution of the proposed analytical framework is that reflexive governance is not only a product of the inter-subjective search for alternatives in light of potential future scenarios (Marsden, 2013) or processes of opening up discussion and closing down solutions (Stirling, 2008). One of the key lessons learned from studying this informal governance space is that reflexivity may also emerge from situational interplay between new policy orientations, institutionalised (municipal) procedures and emergent actions. In doing so, stakeholders set novel responses (or not) vis-à-vis institutionalised procurement practices, formal nutritional knowledge and traditional forms of evaluating the appropriateness of actions. Therefore, the reflexive governance can be approached not only from inter-subjective relations (as opposite to individual thinking or doing exercises) but also from the activity in practice (e.g., designing menus, configuring public bids, shaping alternative supply strategies, collective planning, etc.).

Based on this observation, *the second contribution of the analytical framework is that it draws attention to the importance that operational knowledge can have in the implementation of the new school food policy or particular school food provision strategies.* Indeed, it is from the interplay between collective appraisals and action that: policy values are reframed; regulatory limitations are pushed forward; local meanings and motivations are advanced; knowing how to carry out governing activities is re-examined (e.g., redesigning menus or

public bids); and supply strategies are constructed. In doing so, stakeholders may set novel responses vis-à-vis institutionalised procurement practices, formal nutritional knowledge and traditional forms of evaluating the appropriateness of actions. This is to say that operational knowledge, either of substantive, instrumental or normative, allows actors to deal with the changing situational context of scaling out the school food reform.

The third contribution of the analytical framework is that it can give an idea of how to study the governance of practices. It was shown for example that public food procurement policies and strategies can be designed to make new elements of practices available, to intervene in the ways they circulate, and highlight which practices are aimed to be replaced by another and by whom. The limits of school food policies to interlink old or new provision practices in a totally different fashion were also exposed. This is perhaps due to the fact that school food provisioning arrangements are sub-systems relationally connected to larger constellations of public procurement complexes or that institutions are correlated to larger market arrangements. So, what might be governed at local level are those chains of actions that are less influenced or disciplined at any other scale. Then, the governance challenge is to forge coordination means (including hard and soft infrastructures), linking provision practices in a way that is sensitive towards other practice elements and actions, as well as to other people's values for whom shared responsibilities exist; this may enable multiple practical engagements in reform activities.

Another major contribution is that the analytical tool moves away from the trialism (local, conventional or hybrid food systems) when assessing the virtues of the school food reform. The literature of the local trap has already warned us on the perils of equating local to sustainable food systems. (Sonnino, 2010, Allen and Guthman, 2006). Likewise, the literature on ethical public procurement asserts that not all long-supply chains are unsustainable (e.g., some cases of fair traded foods) or all local food systems can deliver sustainable diets (e.g., Brazilian soy producing town) (Sonnino et al., 2016). Other authors suggest that in the case of large institutional markets, artisanal food producers use conventional infrastructure to mobilize food from farm to table (Conner et al., 2012). This hybridisation also may occur when cities or food aid programmes procure food from both local smallholders and distant large-scale commodity producers.

In this context, the analytical framework uses practice-based conceptualisation that permits to assess the merits of the school food reform in terms of different criteria – that is: by the introduction of new elements of practice, substituting a practice by a more sustainable alternative or interlocking the provision arrangement in different manner. At the same time and by using the lenses of reflective governance, one can appreciate the commitment of a school feeding strategy with a non-instrumental or economic objectives. This means that the analytical framework also requests critical or values-based analysis. In this context, it can be said that "it could be possible to address the creation of sustainable food systems

not only from the production site or the nutritional adequacy of menus, but also from the configuration of the practices and their elements; not from the perspective of its instrumental, logistical and economic limitations, but from its critical assessment; not only according to the values of the public procurement policy, whether neoliberal, nutritional or ethical, but of the transformation and adherence to them in practice.

Methodological reflections

This research has pleasantly benefitted from studying a single case in depth in a multidisciplinary and abductive fashion. I think that this type of design, in its complexity and entirety, is particularly valid when dealing with the construction of more sustainable food systems. Beginning with the conceptual work, studying different fields of knowledge allowed me to have a more comprehensive understanding of the school meal programmes than if, for example, I had decided to focus only on the debates on food security. Likewise, the reading of the cases from the interaction of two governance perspectives connected dots observed on the ground, but was difficult to explain from a singular perspective. In these exercises, I certainly made multiple mistakes, particularly when trying to dialogue between different fields of knowledge, historical events and relate what people do in a scheme that, although broad, is also rather rigid. Despite this, I am convinced that the search for multidisciplinary and holism are relevant, overall, when there are questions regarding the nature of a social phenomenon in an unknown context.

I also learned enormously from the fieldwork immersion in different settings. I could perceive first-hand, for example, how family farmers cooperatives address the problem of scale without losing their core values, like democratic governance and self-reliance, fostering FFs autonomy, channelling coop gains to FFs, etc. Similarly, it was when accompanying the supply of food from farm to schools that I came to realise the value of distribution infrastructure and the intricacy of logistical decisions. At the level of the demand, I could experience the significance of the quality of the food service to invest in school food infrastructure while creating a dedicated body to manage its operation. I also learned that the work of school food champions and social entrepreneurs is fundamental to the emergence of new ways of doing things. However, when speaking to cooks, technicians in nutrition and dietitians, I came to realise that they are equally essential for the transformation and continuation of the school food service. Finally, the research benefitted much from the study of the evolution of the school meal programme and the making of food and nutrition security policies. In the first case, it was fundamental to reveal the key role of civil society in designing food security policies at national level. In the second instance, it pushed me to seek alternatives to conceptualise the interaction between state-civil society that could capture both the construction of policy meanings and the value attached to those meanings at implementation levels.

Notwithstanding the positive contribution of these experiences for my formation as a researcher, with the helpful and calm retrospect of the finished manuscript, there are also pitfalls worth mentioning. First of all, to start without choosing in advance what and how to investigate is a long process, which for a PhD project can be a costly option. This was clear when despite having the option to compare two school food programmes in two municipalities (or more), I finally decided to focus on the city of Porto Alegre. Likewise, coming back (and forward) from the field to seek potential concepts or theories explaining what I found worthy of exploration required several days' work. While such adaptations encourage creativity and joy, on many occasions harmonising findings with effective writing becomes a hard job. As Schwartz-Shea and Yanow (2013 p, 55) nicely summarise, *"in abductive fashion, puzzles grow on the backs of other puzzles"*.

In the second stance, it can also be argued that studying the governance of making school feeding systems more sustainable has undoubtedly left aside other important aspects of the dynamics of change. Indeed, the results of this work would have dramatically changed if, for example, I had included power dynamics in the analytical framework. In the specialised literature, power is a fundamental aspect in the understanding of food system change or normalisation processes (Hinrichs, 2014, Hendriks and Grin, 2007). In addition, while I tried to limit this shortcoming by focusing on the interplay between institutionalized-emergent provision arrangement practices, I did not use any of the traditional approaches to study the capacity to influence policies and political processes (e.g., discourse analysis, historical institutionalism, etc.) or focus on how the relative position of key stakeholders (e.g., municipal authorities, coop managers, etc.) unreflexively influence the organisation of provision practices in various arenas. Moreover, asking stakeholders to focus on the positive aspects of overcoming barriers might have left behind anger and frustration aspects of alternatively arranging the school food service. Perhaps this is an invitation to future researchers to include ways in which actors at both ends of the food equation address power imbalance in the provision arrangement organised by other stakeholders at different levels and scales. In the end, family farmers and students will determine if a reform of school feeding can be considered sustainable or not.

Finally, I believe that communicating the results with people who participate in the research projects is not enough to guarantee that it has a social impact. In fact, when I asked respondents for feedback on research reports, I realised that reading and discussing is not a priority for them. Very often, these actors are entangled in their daily functions, tasks and responsibilities. Thus, I believe that this research could have a greater social impact if it had been designed in such a way that the community under investigation was not a mere "object" of study, but a "subject" protagonist of the research. On the one hand, the complex structure of the explanatory mechanisms in the analytical framework would have been based on the shared meaning of the actors (and not on the mind of the researcher). On the other hand, making reflective capacity explicit could encourage actors inside and outside

the government nodes to understand each other and to visualise the network of multiple connections that support what is apparently considered a routine task.

AVENUES FOR FUTURE RESEARCH DIRECTIONS

As previously stated, investigating power relations at policymaking and implementation levels would enhance the value of the analytical framework. In addition to this, I propose the following avenues for future research.

One area of research would be to collect additional empirical data to compare/contrast different school food strategies and suppliers in other Brazilian municipalities or in other Latin American countries regarding the making of food security processes and civil society participation. Likewise, researching other municipalities and countries can assist in comparing and contrasting school food provision strategies where the public problem is not obesity/overweight, but undernutrition and hunger. In other words, including multiple research sites can contribute to a better understanding of the most generic patterns and those that are context dependent.

I also think that investigating conventional suppliers' and commercial cooperatives' provision strategies could contribute to the advancement of the school food reform agenda. This is one large under-researched subject in Brazil, where it is often assumed that they play a perverse role in the school food reform. Nevertheless, this thesis shows that school food authorities regard them as important pieces of the transition phase.

Still another potential field of research is to dig into the kind of family farmers or small holders that are actually supplying food to schools. This is because in the literature, public food procurement in LMICs is regarded as a tool for poverty alleviation or reduction. Nevertheless, this thesis shows (and the research conducted by Belik, 2015, in the city of Sao Paulo) that FFs participating in large school food markets are more like mid-size family farmers (and established cooperatives) with sufficient food production/logistical capacity. Then, a typology of family farmers and their associations could contribute to the conversation of other benefits of the school food reform in LMICs (e.g., reduction of inequality, promotion of formation of food hubs, etc.).

I also think it is important to take a look at the potential of the demand side to rearrange how supply practices interlock. This thesis shows, for example, that rearranging practice compounds and the making of new supply orders (including alternative farming styles) emerge from the initiative of producers (or city food projects) and not exactly from the new school food market. Thus, it is worth asking about the limits of institutional market instruments to enact alternative food economies. Alternatively, it could be researched whether their contribution to rural development in LMICs stems from its prospective to

stabilise FFs' collective initiatives and production/commercialisation projects.

Finally, a more holistic approach would be necessary in order to hear the missing voices of this research: students, parents and teachers. Their voices, opinions and practices count and are important avenues for understanding the role of the school meal programme in creating healthier and more sustainable eating habits. This avenue is much more relevant in the case of the city of Porto Alegre because, so far, and despite sustained efforts in the city of Porto Alegre to tackle malnutrition, obesity and overweight figures remain unchanged.

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APPENDIX 1 Documents analysed

Governmental policy documents

Document name	Author/year
Decreto Lei nº 79 de 1966. Institui normas fixação de preços mínimos	Brasil, 1966
Lei nº 6.151 Segundo Plano Nacional de Desenvolvimento (PND), para o período de 1975 a 1979	Brasil, 1974
Segurança Alimentar, proposta de uma política contra a fome	Brasil, 1985
Decreto Nº 91.179 de 01 de abril de 1985. Dispõe sobre a definição da estratégia de desenvolvimento rural para pequenos produtores	Brasil, 1985
Lei nº 8080 de 19 de setembro de 1990. Dispõe condições para a promoção, proteção e recuperação da saúde	Brasil, 1990
Decreto nº 807 de 22 abril de 1993. Institui o CONSEA	Brasil, 1993
Lei nº 8.666, de 21 de junho de 1993. Institui normas para licitações	Brasil, 1993
Decreto nº 1.098 de 25 de março de 1994. Aprova o regimento interno do CONSEA	Brasil, 1994
Resolução nº. 2.191 de 24 de agosto de 1995. Institui o PRONAF	Brasil, 1995
Decreto nº. 1.946 de 28 de junho de 1996. Cria o PRONAF	Brasil, 1996
Lei nº 9.394 de 20 de dezembro de 1996. Estabelece as diretrizes e bases da educação nutricional	Brasil, 1996
Relatório Nacional Brasileiro para Cúpula Mundial da Alimentação	Brasil, 1996
Lei 9.648, de 27 de maio de 1998, alterou o artigo 23 da Lei 8.666/93, quanto à modalidade licitatória utilizada para cada compra	Brasil, 1998
Decreto nº 3.555/00 regulamenta a modalidade de licitação Pregão	Brasil, 2000
Lei nº 10.520/02 institui a licitação na modalidade Pregão	Brasil, 2002
Lei nº 10.683 de 28 de maio de 2003. Dispõe sobre a organização da Presidência da República.	Brasil, 2003
Lei nº 10.696, de 2 de julho de 2003. Cria o Programa de Aquisição de Alimentos.	Brasil, 2003
Decreto 5.450/05 regulamenta o Pregão, na forma eletrônica	Brasil, 2005
Lei nº. 11.326 de 24 de julho de 2006. Estabelece as diretrizes para a formulação da Política Nacional da Agricultura Familiar	Brasil, 2006
Lei nº 11.346. Cria o SISAN.	Brasil, 2006
Decreto nº 6.272, de 2007. Dispõe sobre a composição, estruturação, competência e funcionamento do CONSEA	Brasil, 2007
Decreto nº 6.273 de 23 de novembro de 2007, Dispõe sobre a CAISAN	Brasil, 2007
Projeto de Lei nº 2877 da Merenda Escolar (PL 2877/2008). Dispõe sobre o atendimento da alimentação escolar	Brasil, 2008
Lei nº 11.947 de 16 de junho de 2009. Dispõe sobre o atendimento da alimentação escolar	Brasil, 2009
Medida Provisória nº 455/09 cria critérios para inclusão agricultura familiar do PNAE	Brasil, 2009
Decreto nº 7.272, de 25 de agosto de 2010 Regulamenta a Lei nº 11.346 que cria SISAN	Brasil, 2010
Guia Alimentar para a População Brasileira	Brasil, 2014.

Civil society policy documents

Document name	Author/year
Política Nacional de Segurança Alimentar- o “Plano de Combate à Fome”	CONSEA, 1993
Relatório da comissão organizadora da I CNSAN	CNSAN, 1995
Relatório final, I Conferência Nacional de Segurança Alimentar e Nutricional	CONSEA, 1995
Regimento da II Conferência Nacional de Segurança Alimentar e Nutricional	CONSEA, 2004
Relatório final (2ª versão) II Conferência Nacional de Segurança Alimentar e Nutricional: a construção da Política Nacional de Segurança Alimentar e Nutricional	CONSEA, 2004
Regimento da III Conferência Nacional de Segurança Alimentar e Nutricional	CONSEA 2007
Relatório final III Conferência Nacional de Segurança Alimentar e Nutricional: por um desenvolvimento sustentável com soberania e segurança alimentar e nutricional	CONSEA, 2007
Relatório do sistema de monitoramento da realização progressiva do Direito Humano à Alimentação Adequada no contexto do SISAN	CONSEA, 2008
Relatório Encontro Nacional de Segurança Alimentar e Nutricional 3ª Conferência + 2	CONSEA, 2009
Subsídio para Balanço das Ações Governamentais de SAN e da Implantação do Sistema Nacional	CAISAN 2009
Diagnóstico de implantação no âmbito estadual SISAN	CONSEA, 2010
Relatório final IV Conferência Nacional de Segurança Alimentar e Nutricional: Alimentação Adequada e Saudável, Direito de Todos	CONSEA 2011
Estruturando o SISAN	CAISAN, 2011
Plano Nacional de Segurança Alimentar e Nutricional 2012/2015	CAISAN 2011
Balanço das Ações do PLANASAN 2012/2015.	CAISAN, 2014

Complementary documentation

Document name	Author/year
Technical report series 44	WHO, 1951
Geografia da fome no Brasil	Castro1952
Report of UNICEF in the Americas for the Children of Three Decades	UNICEF, 1986
Food and Nutrition Bulletin in Latin America	ONU 1991
Relatório de reunião do Movimento Ética na Política	MEP, 1993
Mapa da Fome	IPEA 1993
Segurança Alimentar e Nutricional no Brasil. Cadernos Comunidade Solidária.	IPEA, 1996
Política Nacional de Alimentação e Nutrição. 2ª ed.	Brasil, MS 2003
Agricultores Familiares fornecendo produtos para a alimentação escolar	CECANE, 2010
Manual de instruções operacionais para nutricionistas vinculados ao PNAE	FNDE, 2012
Cartilha do FNDE - Alimentação Escolar e Agricultura Familiar	FNDE, 2012
Manual das cantinas escolares saudáveis	MS, 2012

City level documentation

Document name	Author/year
Portaria nº 291, de 08/08/1996. Dispõe sobre as diretrizes e critérios para operacionalização do controle de qualidade do PNAE	FNE, 1996
Resolução FNDE nº 2, de 21 de janeiro de 1999. Estabelece os critérios e formas de transferência de recursos financeiros	FNDE, 1999
Lei Complementar nº 434: Dispõe sobre o desenvolvimento urbano no Município de Porto Alegre	POA, 1999
Resolução FNDE nº 19, de 15 de julho de 1999 Aprova o manual do CAE	FNDE, 1999
Resolução FNDE nº 7, de 08 de março de 2000. Estabelece os critérios e formas de transferência de recursos financeiros	FNDE, 2000
Resolução/CD/FNDE nº 66, de 29 de dezembro de 2003. Aprova Assistência Financeira suplementar ao PNAE	FNDE, 2003
Resolução/CD/FNDE nº 38, de 23 de agosto de 2004. Estabelece critérios para execução do PNAE.	FNDE, 2004
Resolução RDC nº 216, de 15 de setembro de 2004. Dispõe sobre Regulamento Técnico de Boas Práticas para Serviços de Alimentação. (Atualizada pela RDC 52, de 29 de setembro de 2014)	ANVISA, 2004
Resolução CFN nº 358/2005. Dispõe sobre as atribuições do Nutricionista no âmbito do PNAE	CFN, 2005
Resolução FNDE nº 35, de 1º de setembro de 2005 Dispõe sobre as prestações de contas dos CAEs	FNDE, 2005
Resolução FNDE nº 5, de 24 de março de 2006. Regulamente o número de dias de atendimento do PNAE	FNDE, 2006
Resolução FNDE nº 32, de 10 de agosto de 2006 Estabelece novas normas para a execução do PNAE	FNDE, 2006
Portaria Interministerial nº 1010 de 9 de maio de 2006- Institui as diretrizes para a Promoção da Alimentação Saudável nas Escolas	MS, 2006
Manual e orientação para os conselheiros e agentes envolvidos na execução do Programa Nacional de Alimentação Escolar	FNDE, 2009
Resolução nº 38 do FNDE, de 16 de julho de 2009, requisitos necessários para a operacionalização do disposto na Lei 11.947	FNDE, 2009
RESOLUÇÃO CFN Nº 465/2010 Dispõe sobre as atribuições do Nutricionista no PNAE	CFN, 2010
Decreto nº 7507, de 27 de junho de 2011 Dispõe sobre a movimentação de recursos federais transferidos	FNDE, 2011
Resolução nº 25, de 4 de julho de 2012, Altera os artigos 21 e 24 da Resolução/CD/FNDE nº 38,	FNDE, 2011
Plano de ação para prevenção da obesidade nas escolas de POA	Departamento de Nutrição POA, 2012
Resolução RDC Nº 49, De 31 outubro de 2013 Dispõe sobre a regularização sanitário do empreendimento familiar rural	ANVISA, 2013
Resolução No 26, 17 de Junho 2013. Dispõe sobre o atendimento da alimentação escolar no âmbito do PNAE	FNDE, 2013

City level (continuation)

Document name	Author/year
Manual de Aquisição de Produtos da Agricultura Familiar para a Alimentação Escolar	FNDE, 2013
Chamada publica para recebimento de projetos de venda de gêneros alimentícios da agricultura familiar 2011,2012, 2013	SMED/SMF POA
Editais de Pregão Eletrônico 2011,2012,2013	SMF-POA
Livro atas reunião CAE	CAE, 2002-2013
Passo a Passo Pedido de Gêneros	Departamento de Nutrição POA, 2012
Planilha controle de compras/manutenção e consertos	Departamento de Nutrição POA, 2012
Cardápio das Escolas Municipais Infantis/fundamentais 2011,2012,2013	Departamento de Nutrição POA
Manual de Boas Práticas de Fabricação	Departamento de Nutrição POA,2012
Instruções de trabalho, preparo e higienização de alimentos	Departamento de Nutrição POA,2012
Cartazes para serem expostos na cozinha e/ou despensa	Departamento de Nutrição POA,2012
Especificações gêneros não-perecíveis, especificações gêneros perecíveis, notificação não-conformidade, controle de temperaturas, rotulagem de gêneros, controle sobras buffet	Departamento de Nutrição POA,2012
Monitoramento de Procedimentos Operacionais Padronizados	Departamento de Nutrição POA,2012
Planilha de Acompanhamento de Conserto/Manutenção de Equipamentos	Departamento de Nutrição POA, 2012
Cartazes de orientações diversas	Departamento de Nutrição POA, 2012
Manual orientações quanto ao cardápio	Departamento de Nutrição POA, 2012
Manual de orientação às equipes diretivas	Departamento de Nutrição POA, 2012
Projeto Sal, Açúcar e Óleo	Departamento de Nutrição POA, 2011

Suppliers level documentation (Cooperatives and Associations)

Document name	Author/year
Ata constituição e estatutos da ASSP	ASSP,1994
Projeto de Reaproveitamento de Resíduos	DMLU,1998
Manual reaproveitamento de resíduos orgânicos via suinocultura	DMLU, 2000
Educação ambiental e coleta seletiva	DMLU, 2002
Relatório Oficinas Participativas ASSP	Araújo, 2011
Termo de compromisso DMLU/EPOWs	DMLU, 2011
Curso assessoria EPOWs	DMLU,2011
Gerenciamento de resíduos sólidos em cozinhas industriais	DMLU, 2011
Plano municipal de gestão integrada de resíduos sólidos	DMLU, 2013
Projeto de piscicultura diretoria de promoção econômica	SMIC-POA, 2008
Ata constituição APESUL e estatutos	2009
Estudo da cadeia produtiva dos citros no Vale do Cai/RS.	EMATER 2002
Relato de Experiência: A produção ecológica de citros	EMATER 2004
Estatuto social ECOCITRUS	1998/2007
Histórico da cooperativa ECOCITRUS	ECOCITRUS, 2010
Protocolo de Certificações ECOCITRUS	ECOCITRUS, 2010
ECOCITRUS website - http://www.coopanrs.com.br	ECOCITRUS
Estatuto social COOPAN	1995/2003
Experiências atuais de cooperativas: região Sul	MST, 2009
Programa do arroz ecológico nos assentamentos da região metropolitana de Porto Alegre	MST, 2010
Programa agrário do MST	MST 2010
Relatórios da equipe técnica e de reuniões do grupo gestor do arroz 2010	COOPAN 2010
Planejamento Estratégico de Desenvolvimento COOPAN	2011,2012
Itinerário Técnico das Lavouras de Arroz Ecológicas.	COOPAN, 2013
Manual de orientações da certificação orgânica participativa	COCEARGS, 2014
Manual de orientações para os grupos de Agricultores	COCEARGS, 2014
COOPAN website - http://www.coopanrs.com.br	COOPAN
Estatuto social COOMAFITT	2006,2009
Relato de experiência da COOMAFITT	EMATER, 2011
Caderno de Formação Certificação Participativa	ECOVIDA, 2011
Projeto transição agroecológica no Litoral Norte do RS	ANAMA, 2011
Planejamento Estratégico de Desenvolvimento COOMAFITT	2012,2013
Plano de negócios COOMAFITT	2012, 2013
COOMAFITT website - http://coomafitt.blogspot.com.br	COOMAFITT

APPENDIX 2 Sample of questions

Group of questions	Example of questions
Personal information	What is your name and function within the organisation, time working in the organisation, CAE, coop, etc.? How did you become involved? Do you mind if I record the interview?
Characterisation of context	What is your role in the school food reform/school food service or cooperative? When the school food reform started (or cooperative), what are the reasons for this? Who are the main responsible for this? Were there external mediators and or institutions that help to put in march the initiative? Has the start of the activity been encouraged by any public policy or specific actor?
Means, Values, and goals	What is your opinion about the PNAE? And the new legislation that regulates the PNAE? What is your opinion about the CAEs? What is your opinion about supplying food with local family farmers? What do you think are the advantages/disadvantages of the city school food service? (Or coop, association, CAE, public bid for family farmers, electronic bidding processes)? What is your opinion of designing menus collectively? What is your opinion of the new school food law? What is your opinion of the 8.666 law? What is your opinion to of working for the school food service? What happened when the school food reform began? How did the farmers react to supplying food to institutional markets? Are there any perceived benefits? In your opinion what are the repercussion of participating in the school food reform/institutional markets. What in your opinion is the importance of linking family farmers to school meals (other way around also possible to ask) Do you think that family farmers products are better? In what aspects? For you, what are the pros and cons of family farmers foods?
Regarding PNAE	How does the school feeding service in the municipality work? In your time working in the school food service, any significant changes have occurred? How the nutrition department organizes the school food service? Who intervenes in this process? Are there any documents you think are important to ensure the quality of the service at the level of school? What are the major problems to the quality of the service? Do you think that school food is a right of students? What are the city strategies have been adopted to adjust to the PNAE regulations? Why is so difficult to tackle obesity? How did the major, FNDE or parents respond to adaptations in the school food service? What are the strategies the city employs to secure that suppliers comply with the requirements of the school food service? What were the main innovations that the experience of buying family farmers food caused? How do you think that the infrastructure of schools and central deposit can be improved? What strategies the city has adopted to help cooperatives to adapt to school market Who is in charge of this? Does it have any resistance?

Sample of questions (continuation)

Group of questions	Example of questions
Regarding the cooperative or association	What are the cooperative/association strategies adjust to the requirements of the city school food service? (e.g., to legal and quality requirements) How did members respond to these adaptations (if any) How does the cooperative organize or coordinate the food supply? Or certifications? Who takes the decisions in the cooperative? How this process occurs? What is the minimum infrastructure you think a cooperative need to be able to supply
Regarding the cooperative or association	food to the city of Porto Alegre? Has the coop membership changed over time – why do you think this has happened? How many farmers participate in the process by delivering food to schools? What are the motives of those who do not participate? Are there any significant changes after participating in the school food market? In your opinion what is the major barrier for family farmers to participate in differentiated markets? What is the importance of markets for the coop and for family farmers?
Regarding the acquisition and consumption of food	Who participates and how the menus are designed? Who participates in the configuration of public bids and how the purchase of family farming products is made? Who else intervene in the public procurement processes? As for quality issues, who defines the product qualities? What is the criterion of exclusion/inclusion of family farmers or their association? How are food prices established, who participates in this process?
Regarding the electronic or public bids bid	How the procurement department organizes the electronic bid/public call) who intervenes? (or who determine who intervenes?) What do you think are the most important values of the 8.666 law? What do you think are the most important values of the new school food law? What are the major barriers to adapt to the new school food legal requirements? Is there any advantage to buy food from local family farmers? What are the advantages of the electronic bid? Do you think that the quality of menus has improved after buying food to family farmers? If so why? What are the positive and / or negative outcomes of this experience? Is there any collaboration with the nutrition department or cooperatives to configure public bids? If so how this occurs?
Regarding family farmers	What were the reasons for you to become a member of the coop/associations? How many farmers take part of the coop? Why do think that the others do not get involved? How do you come to know about institutional markets? For you, what is the importance to participate in the school food programme? What are the positive and / or negative results of this experience? Does the coop have particular requirements when the food goes to school meals?

Sample of questions (continuation)

Group of questions	Example of questions
Difficulties and coping strategies	What factors or aspects you think are difficult to overcome when enact the school food reform/ founding the cooperative/belong to CAE, etc.? Based on the difficulties pointed out, what are the coping strategies adopted? Has there been joint action among the various stakeholders or sectors? How did this happen? Is there resistance on the part of some members to put the collective initiatives in practice? If so what strategies do you think are relevant to change the mind of those who resist to the reform? In your view, are there any improvements that the new regulation brings?

Summary

The National School Feeding Programme (PNAE) is the largest and oldest food policy in Brazil. It provides access to food to about a quarter of the Brazilian population in 5,560 municipalities and 165,000 schools. In the last 25 years, PNAE has radically changed. It became a social right, was decentralised, formally linked civil society to its governance approach, and began to be embedded in the National System for Food and Nutrition Security (SISAN). Families of low and very low incomes identify PNAE as the second most important state food security strategy (cash transfer being the first) that helps them improve their access to food. Since 2009, new guidelines for implementing the PNAE have been established. One of the key aspects of the new implementing framework is that municipalities should procure at least thirty percent of foodstuff from family farmers, preferably organic and locally produced. Since then, PNAE aims to interlink rural development goals with local actions aiming to construct more sustainable food practices and promoting the human right to adequate food, as established in the organic law for food and nutrition security. In this context, PNAE is seen as a public instrument capable of fostering food systems that support public health nutrition, local development, environmental integrity and social justice. These valuations emerge amidst the constantly changing and ever-unfolding food crisis, characterised by bizarre figures of malnutrition and the unsustainability of the globalised and industrialised food system.

Upon this overall background, this dissertation assembles its core goals: firstly, it aims to understand how changes in PNAE occur; and secondly, it aims to gain insights into the dynamics of translating PNAE policy values into the concrete in the context of a large school food programme. To meet these objectives, the research uses an embedded case study with multiple sub-units to generate knowledge about:

- The nature of changes in the orientation of school food policies in Brazil;
- The governance of practices in the city of Porto Alegre, Brazil, when changes in PNAE implementing framework occurs;
- How, to what extent, and under which conditions the participation in the school food market of the city of Porto Alegre induces changes in the governance structures, processes and practices of family farmers' food supply collectivities.

The embedded case study allows for holistic exploration and suggests explanatory mechanisms to understand what, so far, have only been studied separately, namely policy making, policy implementing, and functioning of school food provision arrangements. As a result, an analytical framework is advanced, connecting these three levels. Central to this framework is the concept of governance, which is defined as socio-material assemblages

enabling, directing, or influencing the reform as well as arrangements at the local level, fostering nexuses between demand and supply. This broad definition of governance permits the development of a progressive understanding of school food system elements, relations and configurations central to the discovery and support of new directions in the provision of school food services.

In addition to defining governance in an operational way, the framework also brings to the foreground two up-to-date debates in relation to understanding the formation of more sustainable food systems: reflexive governance and the governance of practices. The first allows understanding of the processes of meaning making at federal (policy principles), city (municipal governing values) and family farmers' collectivities (collective action beliefs) levels. The latter centres around the need for generating local knowledge, constructing enabling infrastructure, and building up competences so as to enable the organisation of the provision arrangement in alternative ways.

These particular understandings and conceptualisations are carefully considered in the methodological chapter of this work. This chapter also presents and justifies the selection of a single case study "PNAE in Porto Alegre, Brazil". This city represents a large school food market serving approximately 45,000 meals on a daily basis, and was the first Brazilian state capital able to link local family farmers to school meals. At the supply side, the family farmer's collective devices are also exceptional cases of occurrences, mainly – but not only – because they are designed in such a way that FFs substantively participate in decision making processes. In addition, their sustainability profile indistinctively addresses environmental, economic and social aspects.

The next section of this work, Chapter Four, traces the trajectory of PNAE and examines the construction of the new school feeding law using the lens of reflexive governance. The major point of displaying the different configurations of PNAE through time is that its nature hinges upon a particular choice of the country's overall development strategy. Initially, PNAE was part of the workings of international food aid regime; later, it became an instrument for fostering import-substitution strategies and consumerist compromises, and more recently it has become embedded in a reflexive governance system for food and nutrition security (SISAN). Enabled by the country's return to democracy, this governance approach has allowed the state and civil society actors to respond to the negative effects of the productionist and consumerist compromises, while advancing socio-economic rights for historically excluded groups of producers and consumers. Here, the analysis of the emergence and working of SISAN and its reflexive arrangements contributes towards deeper inquiry into the origins of the school food reform. This is especially valid when addressing how FNS meanings, normative principles, and institutional design are negotiated and established at the federal level. In this context, the new school food reform reflects efforts to insert right to food, food sovereignty, and sustainability principles into

PNAE, where localisation and intervening food practices are seen as routes to transform the school food service. In fact, with the emphasis of intervening in food practices, the routes of intervention (which were previously based on access to food and improving educational outcomes) carefully consider artisanal suppliers and a wider range of provision actors' (e.g., FFs and their collective governance instruments).

Chapter Five turns its attention to the city's responses to standardised governance procedures when it seeks to enact important food reforms in schools: decentralisation, civil society participation and the creation of markets for family farmers. It shows the processes of meaning making during the decentralisation of the programme, as well as the interactive construction of family farmer-led school provision arrangements. Initially, it offers a rich and detailed description of the trajectory of PNAE in the city of Porto Alegre. Later, it utilises the analytical framework to study and explain those governance occurrences in which emergent school food service practices are imagined, advanced, and in some cases normalised alongside the school food network. Having established this relation, the chapter then analyses how actors intentionally (re)organise strategies of the school food service practices, and intervening components. The chapter finalises with the implications for a school food strategy when the analysis focuses on the governance of practices and reflexive moments of constructing school food principles by discussing the findings in relation to the literature review chapter. In doing so, there are three important insights, with wider implications for school food reform debate. First, when availability of food is not compromised, authorities can guarantee school food rights and citizenry of consumers by the provision and coordination of elements of practice at the access side – regardless of the supplier provenance. Second, the shape given to the school food system by intervening at the access side have important consequences for the particular ways in which local agriculture is linked to school meals. Third, when the procurement law encourages the participation of local family farmers in the school food market, coordinating practices at both ends of the food equation is less dependent on the procurement process and more on the design of menus and everyday 'small adaptations'.

Chapter Six moves towards the supply side. It studies five family farmers' collective initiatives, three cooperatives (COOMAFITT, COPAN, ECOCITRUS) and two family farmers' associations (APPESUL, ASSP). The first part of the chapter contextualises the constellations in which these collective initiatives have surfaced. Here, it is established that higher levels of social and associative capitals of regional family farmers benefit the operationalisation of the city of Porto Alegre PNAE. Immediately after, the particular trajectory of each collectivity is comprehensively described. As a result, it is concluded that participation of coops in institutional (or other) markets should not be viewed as a one-off event, but the result of continuous, cumulative and reflexive processes of collective action. From this point onward, the chapter studies and examines the governance structures, processes and practices enabling the participation of family farmers in institutional and

other markets. The major outcome of this analysis is the exposition of different governance approaches from which FFs' collective devices intervene in relevant supply practices (and their elements) while orchestrate the making (or breaking) within them and between bundles or co-dependent provision practices. These governance approaches are compared in the last section of the chapter. From this exercise, numerous insights arise, among which the following stand out: institutional markets alone cannot be accountable for the emergence of collective initiatives as they are variously supported by other state policies and city food programmes; the higher the dependence on institutional markets, the more governance processes and practices are prone to be influenced by how the city school food market is organised; participation of collective devices in the city school food programme always entails collaboration city-farmer cooperatives, but its intensity and vibrancy hinge upon personal relations, the kind of product to be supplied (e.g., leafy vegetables or animal protein) and the stage of its supply/logistical capacity; and the production capacity of smaller family farmers is not an impeding factor of participation in institutional markets, providing the governance system advances harmonising mechanisms between larger and smaller food producers.

The final chapter concludes this thesis by linking the analysis of each embedded unit to the literature review segment of this book. In doing so, it presents what I think are the major conceptual, analytical and methodological contributions of this work. Although these knowledge claims are relevant for literacy on public procurement, access to markets by smallholders, and food security, this chapter also represents the final effort to holistically construct and interpret the construction and materialisation of PNAE.

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About the author

Camilo Ernesto Lozano Torres was born in the city of Tunja, Colombia where, he studied Agricultural Engineering. After graduation, he started working on the design and implementation of rural development initiatives with various local and regional NGOs. Few years later he returned to the university and obtained a master's degree in the field of Sustainable Development. Subsequently, Camilo developed his professional career working in his hometown as assistant researcher in the areas of local development and water management.

With these academic and practical experiences, Camilo turned his curiosity to the multiple barriers that peasants encounter in the production and commercialization of food. Thus, he applied for an Erasmus Scholarship at the University of Ghent in Belgium where, in 2010, he graduated as a MSc in International Rural Development. In 2011, Camilo was selected to be part of a select group of early stage researchers in the EU Marie Curie project – PUREFOOD. Coordinated by Wageningen University, this research venture aimed to explore the socioeconomic dynamics of local and regional food systems. Until 2016, he developed PUREFOOD project in the school food system of the city of Porto Alegre, Brazil. From 2014 to 2017, Camilo also participated in other comparative research projects on sustainable school meal programmes in Brazil.

Camilo wants to continue investigating how food systems change in different places and spaces.



Name of the learning activity	Department/ Institute	Year	ECTS*
A) Project related competences			
PUREFOOD general introduction course	WASS	2011	1
Food and the City: a historical and conceptual introduction	WASS	2011	1
Contemporary sociological theories of food dynamics	WASS	2011	1
Contemporary economic theories of food dynamics	WASS	2011	1
Contemporary food policy and governance theories	WASS	2011	1
Contemporary food planning theories	WASS	2011	1
Theorising contemp. food dynamics: towards interdisciplinarity	WASS	2011	1
International Winter School and Forum on Contemporary Agri-Food Issues	PUREFOOD	2012	4
Agricultura familiar e campesinato	PGDR	2012	1.6
Alimentação, cultura e campesinato	PGDR	2012	1.6
Estudos Avançados em Desenvolvimento Rural I	PGDR	2012	1.6
B) General research related competences			
Proposal Writing	WASS		6
Research methodology course	WASS	2011	1
Purefood scientific writing and presentation skills	Wageningen language services	2012	1
Techniques for writing a scientific paper	PUREFOOD	2012	1
Project and Time management	RSO-WUR	2012	1
Interpretative methods and methodologies	WASS	2013	4
C) Career related competences/personal development			
III Colloquium in family farming and rural development (organisation & participation)	PGDR	2011	2
<i>"Continuity, Complementarity and Business Models in Multifunctional Agriculture"</i>	First conference on Agriculture in an Urbanizing Society, Wageningen	2012	1

<i>"Food insecurities and the New Food Equation"</i>	Seminario Tematico Agricultura Familiar e Segurança Alimentar e Nutricional Sustentável, Brazil	2012	1
Visiting fellow at Cardiff University	Cardiff University, UK	2013	6
International workshop in Urban Food Strategies (organisation & participation)	PUREFOOD/PGDR	2013	0.6
IV Colloquium in family farming and rural development (organisation & participation)	PGDR	2014	2
<i>""Regional Food Networks and the Construction of Public Food Markets: Insights of a Family Farmers Cooperative in Brazil"</i>	PUREFOOD International conference, Utrecht	2014	1
<i>"Reforming school food in the city of Porto Alegre, Brazil"</i>	Second conference on Agriculture in an Urbanizing Society, Rome	2015	1
Total			44.4

*One credit according to ECTS is on average equivalent to 28 hours of study load

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