

# **Alternative Food Markets in Mexico City: Agroecological perspectives towards sustainable food systems**

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PhD Thesis submitted in accordance with the requirements for the degree of Doctor of  
Philosophy

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October 2020

## Abstract

Towards the end of the 20<sup>th</sup> century Mexico entered the global production of organic food, mainly destined to exports. Food movements from developed countries reached Mexico and were assimilated by existing ones, promoting the emergence of Alternative Food Markets (AFMs). AFMs emerged throughout the country offering organic, traditional and artisanal products, gathering small-scale producers of different backgrounds. The agroecological practices present at AFMs are of interest due to their potential to enable change towards the sustainability of the food system.

Through two illustrative case studies, this thesis seeks to contribute to the body of knowledge on AFNs regarding their emergence, hybrid principles and practices and potential contributions to sustainability. The data collection consisted of semi-structured interviews with organisers and producers of an Organic and an Alternative Food Market, follow-up interviews were conducted to gain additional insights on their practices. Observations and co-organising workshops during the UK-Mexico Chair 2018 provided insights into the AFM practices and principles.

The research argues that Mexico City's AFMs emerged from existing food movements that adapted ideas of organic farming and revalorisation of food. AFMs are spaces that enable knowledge exchange, reconnecting producers with consumers. The first case study is an AFM manifesting its alterity through small-scale produced organic food, whilst the second case study opted for a local approach, expressing its alterity by embracing other production types beyond organic certifications. A set of hybrid practices and principles was identified, pointing at changes that AFMs can enable in the food system. At production sites, hybrid agroecological practices help to preserve and restore biodiversity, reduce external inputs and preserve endemic food varieties. For producers, the recognition of these practices at AFMs have allowed them to be empowered, improve their livelihoods and continue exchanging knowledge.

Keywords: alternative food networks, alternative food markets, sustainability, food systems, organic food, agroecology, Mexico.

## Acknowledgments

I would like to thank the “Consejo Nacional de Ciencia y Tecnología” (CONACYT) for awarding the funding to study a doctoral degree. I hope all the hard work behind this thesis can be of benefit for Mexico.

My appreciation to the supervisors Prof. Peter Jackson and Dr Ruth Little for their guidance throughout this process. Also, to the Department of Geography of the University of Sheffield for an enriching experience as a GTA and GRA.

My most special thanks to all the organisers and producers of the alternative food markets for making this research come true. I appreciate the time you granted for the visits and interviews; I have learned a lot from you.

My sincere thanks to the organisers of the UK-Mexico Visiting Chair 2018, UoS, REDSIAL, UAEMEX, UAM and UNAM, producers and attendants to the workshops, for allowing me to be part of an exciting experience.

Thanks to my family and friends for their support and encouragement.

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## Prologue

This section briefly introduces the Alternative Food Markets<sup>1</sup> (AFMs) of Mexico City that serve as case studies. It intends to give a glimpse of the distinctive character of these venues as a mosaic of practices and principles. AFMs enable change in the food and agricultural landscape in and around Mexico City, a food system that has endured several changes since the introduction of far-trade food production (see picture below).



*Agricultural landscape. South from Mexico City (2016)*

### The Alternative Food Market 01 (AFM01)

It is Sunday morning in a centric neighbourhood of Mexico City. Busy during working days but quiet on weekends, it is peculiar to see a lot of movement in one street and it is due to the AFM01. Once I enter the two-storey building, adapted to host diverse activities of the community, I see people saluting, chatting with producers, talking vividly about food and sharing visions of a better world. One could think this space would be small for this kind of market, but the arrangement of the stalls leaves plenty of space for the producers and visitors. There is a restaurant in the second floor that serves breakfasts cooked with the products of the market, it is without a doubt the best place to observe the AFM and notice that it is unique in its essence. I get an explanation of the nutritional value of the ingredients and how they are balanced in the breakfast portion. Depending on the occasion, there are documentaries or workshops in the schedule, there is more than one thing to do and pretending to spend less than one hour here is practically impossible. The variety of the stalls is a bit like a public market, a bit like a “tianguis”,

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<sup>1</sup> Predominant type of emerging Alternative Food Networks in Mexico.



but not quite. Here one sees the producers more engaged with the customers, chatting and teaching something new about the products they bring. It takes more than one visit to discover the products and the people. To the surprise of the newcomer, there are flavours and aromas that do not occur in more conventional venues. What one finds here is more than food, it is a window to a countryside that frequently only lives in memories or anecdotes. After a few visits to the AFM, the landscapes around Mexico City gain renewed meanings thanks to the people one meets. Their words fill with causes and purpose the agricultural activities. In this place people have learned how to make their own urban orchards or making compost. There are people who come for the first time and that cannot hide their surprise of what small producers can achieve and offer. Recurring customers become part of a community that has touched the heart of the city in more than one way.

The place is busier than in former years, nowadays one must park one block away or leave the car with a dedicated valet parking. Once inside the building one must wait for a turn, a reminder to arrive early or the most demanded products will be sold out. That is the case of a cooperative selling traditional products like tortillas, tamales and fresh vegetables, or the stalls from the town of Topilejo and Querétaro offering eggs, vegetables and cheese. The offer of products has grown, the customers come in larger numbers. After some visits one begins to understand why they created an AFM.

A distinctive feature of the AFM01 has been the labelling and presence of the producers' brands, they have adhered to an organic production and the identification and traceability of their products is important. Although it is not always easy to find a moment to talk to them on the procedures of participative certification, there are programmed visits that one can join. The AFM01 has grown to become a meeting point in a middle-class neighbourhood of Mexico City. One sees several customers leave the market with full bags.

Time to move. To get to the AFM02, I take a high-speed road that was recently built in Mexico City above the more transited avenues. On a Sunday it takes almost half an hour to get there, on a weekday it would probably be more than one hour. This is probably the reason that makes the AFMs work on weekends. The AFM02 is in the south, in Tlalpan, one of the political demarcations of Mexico City that keeps some of the flavour of a rural town. An escape for those living in more urbanised areas, it is a good place to spend a weekend and if one arrives early, parking should not be a problem.

## The Alternative Food Market 02 (AFM02)

The central square of Tlalpan is one of few surviving in Mexico City with a colourful atmosphere that can transport visitors back to a once less urbanised area with open spaces and stoned streets. It has a park with plenty of trees and a kiosk that hosts cultural events several times a month. Around it one can find small shops in buildings from another time, mixed with more recent restaurants and bars that try to fit in the imaginary of rural Mexico. It is a place of gathering with a church, a government building and the plaza, a folkloric scenery. Here one can also find the public market of the neighbourhood, founded around 100 years ago it hosts stalls that have kept up to modern times cooking lunch menus for the people working in the government offices. The corridors and main entrances of the public market host humble people that come to these areas from outside the city to sell handcraft and sometimes fruit or any other produce. As in other states of this country, it is a bit of a shame that there is no place dedicated to these amazing producers that resist to disappear during supermarkets and gourmet shops.

Two blocks from the main plaza one finds the Saturday venue of the AFM02, a building dedicated to cultural activities belonging to a university that was interested in hosting the market. The AFM02 is somehow hidden in this street with colourful colonial architecture, at the main entrance one can barely see the stalls but once inside the atmosphere changes. The AFM02 occupies the front yard of an old house, once there several colours and flavours emerge. For the producers, the first thing to do in the early morning is to carry their products from their preferred means of transportation to the front yard and begin mounting the stall. Around 9:30 AM they are ready to begin. It seems so natural for them to be there that at first sight the building of the cultural house is overlooked.

As a visitor, one of the first stops is at the stall selling a delicious “champurrado”, a maize-based hot drink to shake off the chill of the morning and for farmers a common source of energy. Then is the stall of the rabbit meat products, from there one finds the vegetable stalls from Xochimilco and Milpa Alta with flavours that are different from those found in conventional venues. Aside from them the avocados and the endemic varieties of beans that are rarely found elsewhere, followed by a stall with innovative dishes based on mushrooms. Next the stall of cheeses and the one of honey and amaranth.

There are also stalls that schedule international themes, often with bread and recipes inspired in a different corner of Mexico or the world. It looks a bit like a celebration around food. There is folkloric music in the background and at midday usually a cultural event around food that was surely advertised in social media, it can be a talk or a workshop to learn how to cook. It may also

be the participation of people from another food movement or the celebration of a Mexican festivity.

Walking around the AFM02 is different from other “tianguis”, public markets, or specialised organic shops. Here one can appreciate overlooked aspects about food, meet and talk to the producers. They have built a space to interact and hopefully promote positive changes in Mexico City.

## Chapter 1. Introduction

This thesis begins with a brief introduction of the research carried in two illustrative Alternative Food Markets (AFMs) of Mexico City. It provides an overview of Alternative Food Networks (AFNs), hybrid agroecological practices and principles, and sustainability of the context-based food systems. It also presents the research aim and research questions, it ends with an overview of the thesis structure.

### 1.1 Alternative Food Networks in Mexico

In the face of the challenges of the turn of the century there has been a call for a more sustainable food system, and AFNs have emerged as an option to contribute to this change. In the last two decades, AFNs have gained visibility because of evolving criteria towards healthy food, fair trade and sustainable farming practices, including farmers looking for a continuous and fair income (Marsden and Murdoch, 2006; Renting et al, 2003). Nevertheless, these channels of production and distribution have faced tensions as research has shown a series of shortcomings in terms of fulfilling to some extent their sustainability promises (Goodman, et al., 2011; Guthman, 2014; Alkon & Guthman, 2017). On the other hand, AFNs create demand for local produce and involve producers and consumers in the economic and political agendas (Renting, et al., 2003; Jarosz, 2008). This thesis seeks to uncover the characteristics of the predominant form of AFNs in Mexico, denominated “Alternative Food Markets” (AFMs) and show their agroecological practices that could promote a shift towards sustainability in the food system.

In recent decades, environmental and organic agriculture movements in developed countries set in motion a revalorisation of food quality that accompanied the diversification of food systems and witnessed the emergence of alternative food practices (Goodman, 2003; 2004). This trend spread around the world and countries like Mexico entered the production of organic food dedicating it mainly for exports while its implementation at local scale was initially overlooked in the pursuit of fulfilling the international demand (Coneval 2010; INEGI, 2012). During the early 2000s, citizen initiatives gained momentum in several points of Mexico around the idea of healthier food, mainly working in urban collectives and organising sporadic fairs (Bustamante-Lara & Schwentesius-Rindermann, 2018). Towards the end of that decade, this movement constituted a national network of organic markets (REDAC), which aimed at bringing healthier, organic food to a larger proportion of the Mexican population. In the process, they also played a role in the creation of the Mexican laws for organic production and certification (Nelson, et al., 2008). During this time, there has been a variety of alternative food movements emerging in Mexico and evolving in different ways around their own visions of a better food

system, encouraging closer connections between producers and consumers (Bazzani, 2013). The markets that conformed the organic network in good measure have represented the benchmark for other initiatives and have been the most palpable cases of AFNs shaping the food landscape of Mexico. Parallel to these developments, agroecology matured in Mexico during the 20<sup>th</sup> century allowing to reappraise indigenous practices at the production sites (Altieri, 2002; Gliessman & Engles, 2015; Astier, et al., 2017).

The purpose of the research was to gain a better insight of the AFNs emerging in Mexico and their potential to contribute to the sustainability of food systems. The work conducted intends to advance the understanding of AFNs years after the “quality turn” began an ongoing exchange of ideas between the “conventional” and the “alternative” (Goodman, et al., 2011). It studies the AFNs emerging in a country where conventional and traditional agriculture have coexisted since the 16<sup>th</sup> century (Tutino, 2018).

Agriculture in Mexico has been increasingly challenging for small-scale and family-based farmers. Government data shows that most of the production is concentrated in the large-scale, mechanised categories of producers, while the largest number of them are still family-based and frequently lack access to the market, making them vulnerable to intermediaries (INEGI, 2012). The same data shows that despite efforts to mechanise the small-scale producers, it has not been fructiferous, which frequently makes farming an isolating activity for them, risking leaving aside their valuable agricultural knowledge. From a general perspective, the social support for family-based food producers has remained stagnated, but this seems to be changing as food movements consolidate alternative networks of food production and distribution. These have been primordially manifested in Mexico in the form of Alternative Food Markets, a term to identify the main manifestation of Alternative Food Networks emerging in Mexico. Understanding the emergence of AFMs in the in fast-growing cities far from core capitalist economies, is relevant to enable change towards the sustainability of food systems.

## 1.2 Research Aim and Research Questions<sup>2</sup>

Through two illustrative case studies, the thesis aims to investigate the emergence of AFMs in Mexico City, the practices and principles of their participants, and the potential contributions to the sustainability of the food system. The aim is sought to be scrutinised by answering the following research questions.

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<sup>2</sup> For a roadmap of research questions, chapters of the thesis and analytical framework, please see Figure 1.

The first research question aims to understand the factors contributing to the emergence of Alternative Food Networks in Mexican cities and their distinctive features. For this purpose, two illustrative Alternative Food Markets from Mexico City were selected. These markets emerged a few years before the beginning of the research.

Literature on AFNs shows that AFNs have emerged in developed countries following a reappraisal of food quality partly inspired by previous food movements. In Mexico, the large-scale production of organic products for exports influenced several food movements on small-scale organic and local agriculture to create AFNs. They have appeared mainly in urban areas like Mexico City, playing an important role in the economy of growing urban centres, such as the megalopolis of Central Mexico.

*RQ1: What factors contributed to the emergence of Alternative Food Markets in Mexico City and what are their distinctive features?*

The second research question focuses on the practices and principles of the AFM participants, as means to understand the character and trajectories of the AFMs as well as their potential to contribute to the sustainability of the food system. In Mexico, large-scale agricultural practices entered in the 16<sup>th</sup> century and merged to some extent with pre-Columbian ones. For small-scale food producers in Mexico, the agroecological practices have played in recent years a vital role in becoming more visible and reappraised. However, the commercial food system creates for some of them, pressure to adapt in order to distribute, sell and survive. This research question also allows to understand how the AFMs are adapting to challenges, particularly the conventionalisation of the food system:

*RQ2: What distinctive hybrid agroecological practices and principles are used by the participants of the AFMs of Mexico City, and how are they adapting to the challenges of ongoing conventionalisation?*

By understanding the emergence of AFMs, as well as the practices and principles of their participants in the face of ongoing challenges, the third research question aims to inquire into the potential contributions of AFMs to the sustainability of the food system of Mexico City<sup>3</sup>:

*RQ3: What potential contributions to sustainability can AFMs bring to the food system of Mexico City?*

The fourth and last research question inquires into the contributions of this research:

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<sup>3</sup> The contributions to sustainability are based on AFN literature.

*RQ4: How can this thesis contribute to a better understanding of the potential of Alternative Food Networks from Mexico as sites of practice towards more sustainable food systems?*

To answer these questions a case study approach was followed in accordance to the main body of research on AFNs. The data collection consisted of semi-structured interviews with organisers and vendors providing a series of context-based traits of the AFNs emerging in Mexico City. The semi-structured interviews also allowed to gain an understanding of the AFMs from the perspective of the participants and the challenges they face. With the aid of follow-up interviews it was possible to gain additional insights on agroecological practices happening at AFMs with the potential to contribute to the sustainability of the food system.

In addition, I had the opportunity to participate in the UK-Mexico Chair 2018, where a series of workshops that involved several actors of the food system of Mexico City took place. This allowed me to gain a better perspective of the growing role that AFMs have in the food system of Mexico City, their challenges and the increasing attention they are receiving from small-scale producers and participants of other food movements.

Hopefully, this work will enrich AFN debates in other areas of the world where small-scale producers are gaining visibility given the present challenges faced by the food system.

### 1.3 Findings and conclusions

The findings suggest that Mexico City's AFMs share some traits with the literature of AFNs from developed countries, while they manifest an alterity from their own contexts, which can be visualised as a continuity between family-based knowledges, local cultures around food, and current food movements. These aspects are not just related to AFNs but are also vital parts of the Mexican Cuisine. The studied AFMs have followed two main paths, one is more aligned to organic certifications and has acquired a structure closer to the farmers' markets from developed countries, whilst the second path focuses more on the local and incorporates a wider range of food production visions, ranging from artisanal, traditional and organic. Since the creation of the AFMs, the vendors have extended their networks within and outside the AFMs and have incorporated diverse practices to achieve this, in some cases leading to the formation of cooperatives, food boxes, online sales, foundations, and other types of synergies. The examination of these AFNs from the production sites to the markets can uncover links between their practices and the sustainability of food systems. The recognition and inclusion by the Mexican government of less polluting agricultural practices, frequently organic and others such as agroecological, indicate a two-way hybridisation process between the conventional and the alternative. Furthermore, a continuous dialogue between market-driven food initiatives can

impact the food system in the search for more sustainable futures. In this scenario, the AFMs have been implementing and sharing sustainable practices more visibly than their counterparts (public markets, supermarkets, organic shops). This research suggests that the emergence of the AFMs has constituted a contribution to a shift in the food paradigm of Mexico City, as well as influencing other producers and sale points that somehow overlooked the heritage of the Mexican Cuisine and relied on the conventional food discourse over the years (e.g. meat over plant-based diet). The emergence of AFMs has led to a revalorisation of the knowledge around food that survived in families after the conventionalisation of the 20<sup>th</sup> century and constitutes a vital component of the Mexican gastronomy.

The conclusions point at AFMs as market-driven initiatives that have evolved as a function of their origins and contexts around the country. The hybrid agroecological practices and principles at AFMs have the potential to contribute to sustainability. From a general viewpoint, the vision of AFMs to make organic food available to most of the Mexicans beyond the massive organic production destined for exports, has contributed in recent years to create a new foodscape, emerging somewhere in between public markets, “tianguis” and organic shops. As with the AFNs from developed countries, the reconnection between producers and consumers through diverse activities around food is one of the main drivers of change, and in Mexico it is strongly linked to the local culture, family knowledge and gastronomy. By creating their own alterity, Mexico’s AFMs contribute to rescue endemic food varieties and diets. AFM producers make visible food varieties frequently overlooked by the inhabitants of cities due to a growing conventional food supply, AFMs promote a critical dialogue with the consumers around biodiversity and food related issues, potentially improving their diets, promoting reconnection with family-based knowledge. In addition, despite increasing urbanisation, the AFMs of Mexico City are still counting on local production which is embedded in a constantly changing matrix of territories dedicated to housing, conservation and agriculture. The results also suggest that the AFMs, as market-driven initiatives may not be exempt to feel the pressures exerted by the conventional food system and may also be at risk of being drawn towards more conventional practices that guarantee their survival. Unlike other types of food markets, AFMs have resisted, to some extent, the external pressures thanks to the visions of their participants, who tend to see food not just as a way to achieve a livelihood, but a component of a process of change around preconceived ideas emerging from the continuous conventionalisation processes of agriculture in Mexico and the world.



## 1.4 Thesis Structure

The structure of the thesis uses as a backbone the EPCC analytical framework<sup>4</sup>, which is proposed using the research questions, literature review and data analysis<sup>5</sup>. The framework is also used to present the findings in the empirical chapters and to conduct the analysis and discussion (Figure 1).

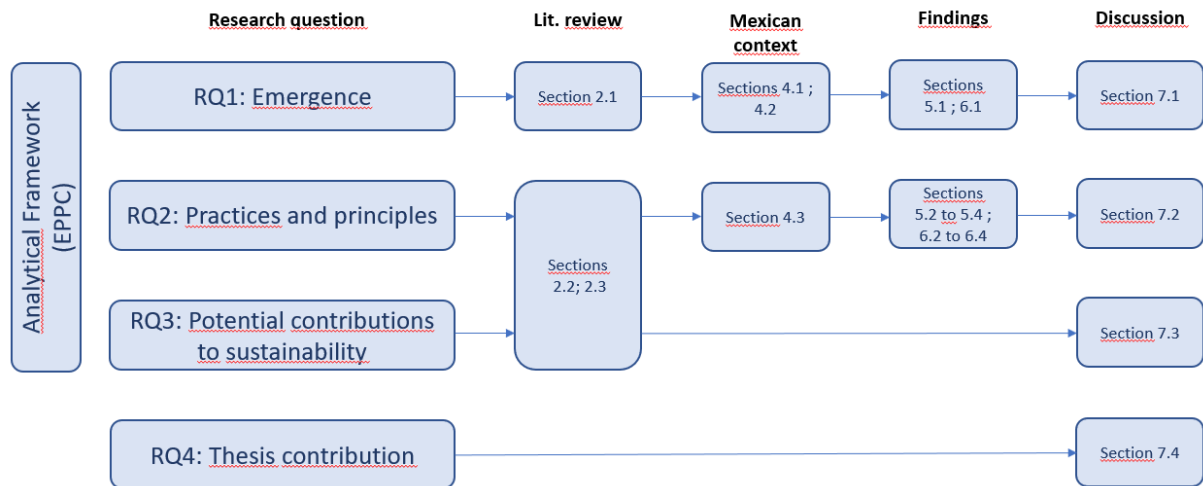


Figure 1. Thesis structure with connections to research questions and analytical framework.

Chapter 1 summarises the thesis, the emergence of AFNs in Mexico, particularly as organic and local markets in Mexico City.

Chapter 2 presents a review of the literature on the emergence of Alternative Food Networks, their antecedents, types and features. Additionally, the literature on AFN practices and principles is discussed introducing a set of hybrid-agroecological practices. The chapter introduces the analytical framework of this work, consisting in the emergence of AFNs, their hybrid agroecological practices and principles, and potential contributions to sustainability.

Chapter 3 details the methodology to answer the research questions, providing a description of the research positioning, data collection and data analysis.

Chapter 4 puts Alternative Food Networks in the context of Mexico, with a brief historical account that led to the creation of the REDAC national network of organic markets and AFMs.

The chapters 5 and 6 provide the empirical information to answer the first three research questions, according to the EPCC analytical framework. Chapter 5 presents the first case study, the AFM01, with an orientation towards organic production. The Chapter 6 presents the second

<sup>4</sup> Emergence, Practices and Principles, potential Contributions to sustainability.

<sup>5</sup> The EPCC analytical framework is explained in sections 2.4 and 3.3.

case study, the AFM02, a market with a more local approach that includes additional production styles besides organic.

Finally, Chapter 7 discusses the empirical data and potential contributions of AFMs to sustainability. It also answers the fourth research question as a conclusion to the thesis.

### Notes for the reader

#### Regarding participants' quotes in this thesis

Participants were anonymised and given an alias instead of their original names. This was done in fulfilment of the paperwork necessary to conduct the interviews and record audio, receiving Ethics Approval by the University of Sheffield.

At the end of each quote, the alias of the participant is given. Usually the text guides the reader about the participant background and meaning of the quote.

#### Key terms in this thesis

The following key terms appear in the thesis. The definition and context should be taken into account to avoid confusion.

**AFN or Alternative Food Network.** The most important papers on AFNs between 2000-2010 (Marsden, et al., 2000; Renting, et al., 2003; Whatmore, et al., 2003; Ilbery & Maye, 2005; Sonnino & Marsden, 2006), produced a definition of AFNs as short chains or circuits shifting food provisioning from their industrial counterparts, promoting re-localisation and resocialization around food with “an ecological and social vision and discourse embracing environmental awareness and progressive social goals” (Jarosz, 2008, p. 232). AFNs are characterised by venues displaying small-scale, short-distance exchange, production using organic or other holistic methods dissimilar to industrial ones, and a commitment to “sustainable food production, distribution and consumption” (Jarosz, 2008, p. 232).

**AFM or Alternative Food Market:** are sites of AFN and agroecological practice that enable change in the food system.

**AFM01 or first case study:** Is an “alternative to organic industrialised” AFM based in Mexico City.

**AFM02 or second case study:** Is an “alternative to organic certified” AFM based in Mexico City.

**Conventional agriculture, or agricultural system:** Is the mainstream, industrial agricultural system.

**Conventionalisation:** Is a process of adoption of practices typically seen in the mainstream, industrial food system. It usually follows the entrance to the mainstream agri-food market.

**Hybrid agroecological practices and principles:** Are concepts from Alternative Food Networks that merge with existing Mexican agroecological practices producing a hybrid set.

## Chapter 2. Alternative Food Networks

### Introduction

Chapter 2 consists of a literature review on Alternative Food Networks, it addresses the main arguments in this body of knowledge that the thesis helps to advance. It discusses the AFN antecedents, practices and their potential contributions to the sustainability of the food system.

At the end of the chapter the analytical framework is outlined. It consists of three themes: emergence (E), hybrid agroecological practices and principles (PP), and potential contributions to the sustainability of the food system (C), it will be referred to as “EPPC”. By analysing the emergence of the AFNs, it is possible to uncover their practices and principles, which allow to discuss their potential contributions to the sustainability of the food system<sup>6</sup>.

Practically all the literature on Alternative Food Networks has been written in northern, developed nations. This is a useful reference to discuss the AFNs emerging in Mexico after the country’s entrance in the production of organic food for exports to those countries. Besides organic agriculture, which is the main practice that large-scale producers adopt looking to access international markets, at smaller scales agroecology has played a vital role in the subsistence of family-based producers.

Section 2.1 is an insight on the antecedents of AFNs and their changing nature, the emergence of AFNs is discussed with its links to organic agriculture.

Section 2.2 discusses hybrid agroecological practices and principles of AFNs linked to the sustainability of the food system. Agroecological practices have been widely used in Mexico, mainly by small-scale producers.

Section 2.3 presents the analytical framework of the research, as a product of the literature review, the research questions and the position given by the research data.

### 2.1 Antecedents of AFNs

To understand the AFNs emerging in Mexico, it is important to look at their antecedents in their regions of origin as well as the changes they have experimented. The origins of AFNs during the 20th century can be traced back to a broad landscape of ideas and practices in Western Europe and North America that after some convergences created spaces for their emergence. These

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<sup>6</sup> This sequence will be followed in later chapters to present the findings (Chapters 5 and 6), and to conduct the discussion (Chapter 7). It also intends to facilitate the navigation through the document for readers.

ideas were mainly a critique to the industrial societies and environment degradation, while the practices tend to be advocates of ecology and well-being.

For Renting et al. (2003), AFNs emerged as a result from the evolving criteria of consumers towards healthy food in the late 20th century, driven by fair trade and sustainable farming practices as well as farmers looking for a continuous and enough income. After the productivist crisis of agriculture in Europe, AFNs were subject of attention of potential key innovation in farming, with a focus on the needs of consumers and the inclusion of sustainability in production (Renting et al., 2003).

Markets have promoted the interaction between producers and consumers for centuries in Europe and Mesoamerica, some of their characteristics are seen in AFNs. Chiffolleau et al. (2016) propose a historical evolution of short food supply chains (SFSCs<sup>7</sup>) in Europe dating back to physical market places at forums and wholesale trade in Rome. According to these authors, markets were reintroduced by kings during the Middle Ages to be part of European neighbourhoods and evolved into more complex social spaces and strategic meeting points for local farmers. Markets made it possible for local farmers to sell their produce to city inhabitants, but they also connected cities and the countryside, attracted artisans and sellers, merged small-scale trade with sociability practices and were political instruments for local development. As long-distance transportation, urbanisation and technical progress appeared with the industrialisation of Europe and eventually the rest of the world, an evolved market economy led to new methods of food production and to a different organisation of food distribution.

By the 20<sup>th</sup> century, the adoption of the supermarket chain model decreased the number of small-scale farms in several countries, but those that organised collectively survived through the change of the century to become in recent years the centre of attention of governments attempting to promote local food procurement and sustainable policies. However, authors like McCarthy (2006) and McMichael (2009) have pointed at the power that a few large companies have amassed and concentrated, creating practices that affect the economic situation of food producers (Duffy, et al., 2003; Hingley, 2005; Lawrence & Burch, 2007; Anderson, 2008), in more recent years they have also appropriated the discourse of alternative producers (Jackson, 2007).

In addition, the lack of transparency along the complex and large conventional supply, has led to a disconnection between consumers and producers (Kloppenborg, et al., 1996; Grey, 2000; Ilbery & Maye, 2005; Chiffolleau, 2009). Corporate food businesses have tried to fix their

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<sup>7</sup> Despite the evident differences in concepts, AFNs and SFSCs are commonly found together in the literature to refer to similar constructs on alternative food provisioning.

mistakes adopting sustainability discourses and creating their own initiatives (Hartmann, 2011), as a response, AFNs have risen in a way of conceptualisations to address the problems posed by the conventional food system (O'Hara & Stagl, 2001; Selfa & Quazi, 2005; Maye & Ilbery, 2006). However, it has been until recent years that these ideas have reached countries like Mexico.

Producers have been active actors in the reconfiguration of the food supply, due to their economically adverse position (Renting, et al., 2003; Maye & Ilbery, 2006). For Corsi, et al., (2018), the choice to participate in AFNs can be simplified to an economic one, choosing the most profitable marketing chain, offering the best possible ratio between profit and cost. This position coincides with other authors stating that the producers can have larger marketing margins when they sell directly to the consumers (Brunori, et al., 2012; Brunori, et al., 2016; Schmitt, et al., 2016). For authors like Corsi, et al. (2018), though, it is important to remember that prescindning of the intermediaries creates associated costs of distribution, like transport, sale hours and fees.

On the consumer side, there has been a general distrust of the food that is provided through conventional channels (Marsden, et al., 2000; O'Hara & Stagl, 2001; Whatmore, et al., 2003; Renting, et al., 2003). AFNs have helped consumers to gain conscience and awareness on the problems of food systems (Ilbery & Kneafsey, 2000; Hinrichs, 2000; Ilbery & Maye, 2005). The quality turn also implied scared consumers concerned on food health and safety (Renting, et al., 2003; Whatmore, et al., 2003; Ilbery & Maye, 2005). After that, consumers have looked for high-quality food and started to select more distinctive types of foods (Goodman, 2004; Harvey, et al., 2004; Higgins, et al., 2008).

The practices that enabled the emergence of AFNs were often considered as social experimentation or part of radical discourses towards the mainstream culture, like the New Age Travellers of the USA. The series of counter-culture movements that Goodman et al. (2011) identifies occurred in Europe and the US, these are: the commune movement; the counter-cultural "back to the land" movement, as the cradle of organic agriculture; and the biodynamic movement in Germany. For Goodman, et al (2011), the counter-cultural "back to the land" movement played a key role in the growth of organic agriculture in the 1960s and 1970s. It highlighted ideas on self-sufficiency and living in small-scale communities with concerns on "antimaterialism, pacifism, feminism, antiurbanism, ecologism and radical green visions" (Goodman, et al., 2011, p. 55).

For Mexico, the predominant AFN approach in the US has influenced the shaping of organic shops and boutiques. For Goodman, et al. (2011), despite being a challenge to capitalist and

mainstream ideas, attempting to make them closer to ecological and social sustainability, AFNs have been built “on imaginaries and material practices infused with different values and rationalities”, that have led to “spaces of possibility”, coevolving and coexisting with capitalism (Goodman, et al., 2011, p. 3).

Most of the AFN research has taken place in the Global North (Europe and the US), while the studies conducted in countries of Latin America are starting. The literature shows that the most frequent AFN work is empirical, and consists mostly of interviews and surveys, focusing on community supported agriculture, farmers markets, organic farms and cooperatives (Michel-Villarreal, et al., 2019).

The origin and denomination of AFNs in Mexico is different from the experiences seen in the literature from Europe and the US, the case of Mexico is strongly related to its own context. The denomination of AFNs started in the UK and referred to new channels of food provisioning related in the first place to rural development. In countries like Italy, France and Spain, there were different ways to approach alternative provisioning, like public-like organic markets with a stronger peasant footprint. Countries like the US and Canada saw the emergence of AFNs as a part of an anti-establishment political discourse. Every AFN is unique in its own way, the Mexican ones seem to be, according to the literature, between these two positions.

Probably the main driver that promoted the adoption of AFNs in countries of the Global South is a market-driven appreciation of food quality. A country like MX entered the global market of organic food due to their commercial bonds with the US, but as the food movements became markets, there is probably a similarity to the AFNs of countries of Latin ascent like Italy and France. Even in Europe, AFNs are somehow different between southern countries with a strong farmers tradition and the northern ones with more industrial development. Again, Mexico has a bit of both.

### Organic agriculture

Organic agriculture is one the main antecedents of AFNs, Goodman (2011) identifies in its antecedents some core producers’ features and how practitioners believe that being aware of them through practice could create social change. In early organic movements this was often referred as an “exemplary role” and created some tension with later studies. In the USA, works like Buck, et al, (1997) was critical to the distancing from their original values and proposed a conventionalised version of organics, which has been put into context by later studies arguing that organic agriculture is actually economically-oriented (Campbell & Rosin, 2011). For Kneafsey (2010), AFNs have become more difficult to categorise as “conventional” or

“alternative”. In this thesis, to avoid tension and facilitate the selection of case studies, the classification of urban food subsystems by James and Friel (2015) was used to specify that the study will take place in the alternative-commercial subsystem and the AFN characteristics by Darolt, et al. (2016) to specify that the selected case studies exchange food using money.

Organic agriculture is of interest, because the growing demand for organic products in Western Europe and North America contributed to its adoption in Mexico. This happened first at large-scale and was aimed at exports, which involved mainly large-scale producers and later at smaller scales. When local food movements adopted and promoted organic agriculture, a new layer of practices and principles was added to the existing food landscape, and with it, Alternative Food Networks.

## 2.2 Practices and principles in AFNs

In this section I present a first set of practices and principles identified in AFN literature based on typologies and attributes. Some of the AFN characteristics cited in this section were also used in the selection of the case studies<sup>8</sup>.

### 2.2.1 AFN features

AFN features appeared in the academic literature in the first decade of this century, from those others were added or derived. The characteristics of AFNs are frequently found as practices or as social, economic and environmental impacts. It can produce certain overlapping and lead to claims or shortcomings about their benefits if there is not additional research in different contexts<sup>9</sup>.

#### *Core features*

The emphasis on a shift from industrial food production is a starting point. AFNs are mentioned to shorten the industrialised complex channels of distribution, reshaping the spatialization around food (Marsden, et al., 2000; Renting, et al., 2003).

AFN characteristics can be grouped starting with the producers’ background, vision and principles, also looking at their products, production techniques and site of production, other actors of the food system taking part of the AFN can also be considered. For Forssell and Lankoski (2014), the characteristics related to AFN participants impact the food system indirectly, whilst those AFN characteristics related to products, production and provision can change it concretely.

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<sup>8</sup> See section 3.2 for further details.

<sup>9</sup> This is an argument this thesis can refine by analysing in sequence the AFN emergence from their practices and potential contributions to sustainability (EPPC analytical framework).



Jarosz (Jarosz, 2008) produced a definition that encompasses four attributes of AFNs: reduced distance between producers and consumers, small-scale organic or holistic farming, specific venue types (farmers markets, CSA, etc), and most importantly, highlighting them as sustainability-committed at production, provisioning and consumption levels.

#### *Embeddedness and trust*

Embeddedness indicates fair and trusting relations among actors of alternative local food networks, a difference from the conventional agro-industrial model (Maye, 2013; Tregear, 2011). Social embeddedness could be a powerful resource to shed light on the economic aspect of food markets (Hinrichs, 2000). In their beginnings, AFNs were considered as embedded in specific locations, aiming at becoming economically viable for producers and consumers, using fair practices of production and distribution, improving the conditions of the communities (Feenstra, 1997).

Embeddedness has been a concept applied to alternative food supply chains to understand their quality attributes (Murdoch et al., 2009; see also Marsden and Murdoch, 2006). The resulting balance of governance, embedding and marketing has been considered a factor for success across European countries (Roep and Wiskerke, 2010). In the case of Germany, one of the leading countries in organic food production (known as “Bio”), the search for success factors within a limited region has identified that the involvement of several sectors in the network has a direct effect on the turnover (Heer and Mann, 2010).

In AFNs, the place of actors in a relational network is key to achieve social change in both social and ecological production relations. For Goodman et al (2011), consumers in particular play a key role as agents of change and trust with producers is vital, but is questioned as “the collective action of these social movements is directed primarily toward the market” (Goodman, et al., 2011, p. 6).

Alternative food networks have been leading the change towards a different paradigm in the development of rural areas, creating territorial and ecological embeddedness in Western Europe (Goodman, 2004). AFNs can change the configuration of relationships between food producers and consumers. For authors like Morris and Kirwan (2011), the ecology of production is a factor in the process of the development and operation of AFNs. They claim that the production fields are embedded and fixed in the surroundings, creating four areas of opportunity for research, regarding the ecological interactions and effects between consumers and producers.

### *Welfare*

AFNs socio-economic features are usually related to the welfare of producers and their communities. A redefinition of relationships between producers and consumers, as well as their role in the construction of meaning and value, beyond the product (Marsden, et al., 2000). AFNs add value product judgement, redistribution of the value and risk along the network (Whatmore, et al., 2003). Quality and transparency, trust and social embeddedness and localness (Ilbery & Maye, 2005; Sonnino & Marsden, 2006) are other features mentioned in main AFN papers.

A study by Mundler and Laughrea (2016) focusing on the effects of short supply channels in specific country regions in Quebec included indicators about farmers' welfare, local development, community welfare and environmental protection. The results show a positive impact in the skill and capacity building of farmers, a sense of satisfaction regarding the social and financial recognition brought by the sustainable agricultural practices, job creation, environmental practices and farm educational activities. Neutral elements of this study are the farmers' revenues and the economic impact of short food supply chains in the local economy, in the sense that the short supply does not necessarily add value to farms. According to the authors, there is a strong dependence on the available data at regional level and sample quality. This study is a highly structured approach towards the understanding of the role of short food supply chains in the sustainability of a territory, and the effects on the community. Despite the extent and detail of the approach, a couple of factors are left to be considered in future research: the first one is the restriction that the data gathered at a local level has in the possible extrapolation of the effects of short supply, and the second one is the quality of the sample in the context of the regional averages (number of years farming, distribution).

### *2.2.2 AFN types and classifications*

This subsection presents features, practices and principles of AFNs found in typologies.

As a starting point, to identify AFNs it is necessary to look for channels of food production and distribution that create closer connections between producers and consumers (Bazzani & Canavari, 2013). AFNs also have more proximity to rural contexts and show a departure from conventional channels of distribution (Renting, et al., 2003).

The departure from conventional modes of production and distribution is illustrated in a comparative by Ilbery and Maye (2005) (Table 1).

Conventional	Alternative
Modern	Post-modern
Manufactured/processed	Natural/fresh
Mass (large-scale) production	Craft/artisanal (small-scale) production
Long food supply chains	Short food supply chains
Costs externalised	Costs internalised
Rationalised	Traditional
Standardised	Difference/diversity
Intensification	<u>Extensification</u>
Monoculture	Biodiversity
Homogenisation of foods	Regional palates
Hypermarkets	Local markets
Agri-chemicals	Organic/sustainable farming
Non-renewable energy	Reusable energy
Fast food	Slow food
Quantity	Quality
<u>Disembedded</u>	Embedded

Table 1. Conventional vs Alternative (Ilbery and Maye, 2015)

From the table, AFNs belong to a post-modern, small-scale based production type, where the rules of large, conventional networks do not apply. In the case of the Mexican AFNs it may not be a story of opposites, but it is important to acknowledge the differences that AFNs intend to display in contrast to the conventional food system. The idea is that AFNs can act as a driver of change to increase sustainability in all its dimensions, trust and equality. Ideally, AFNs should also promote growth in agricultural, food, business, social, health and rural policy. The options that claim the title of AFN nowadays range from box delivery, farmers' markets, on-farm sales, consumer cooperatives, direct internet sales, community-supported agriculture, community gardening, Grow Your Own and wild food foraging. AFNs can display commercial and non-commercial settings, which was a key characteristic to select the ones of this research (Galli and Brunori, 2013).

In the food sector this shift is noticeable due to concerned consumers looking for ethical origin and the quality and freshness of products. Authors like Pramatarari (2016) point at shifts in consumers' behaviour, those that shift from monthly shopping trips to big hypermarkets to smaller-basket visits to neighbourhood-based convenience stores; and, those that turn towards the quality of food or care for food origins. However, for producers the alternative trade is key for their survival, while for consumers it is a matter of choice (Melo & Hollander, 2013).

Darolt et al. (2016) propose a classification for "short distribution channels" based on the work of Chaffotte and Chiffolleau (2007) and Mundler (2008) (Figure 2). In this classification, the proximity between producers and consumers in the supply chain is a function of the number of intermediaries, leading to direct and indirect sales. This shows a process of reconnection acknowledged by AFNs where sometimes the initiatives have not yet reached the consumers directly but need of people to take their products to them. There is an additional dimension in this classification that is useful for this study, pointing that the exchange of food may take place directly at the farm, in a venue organised by producers or the distribution can be managed at distance. This is relevant because in the real world, AFNs may not always be in a stage where they can offer visits to the consumers, although it could represent for some producers a goal in the future.

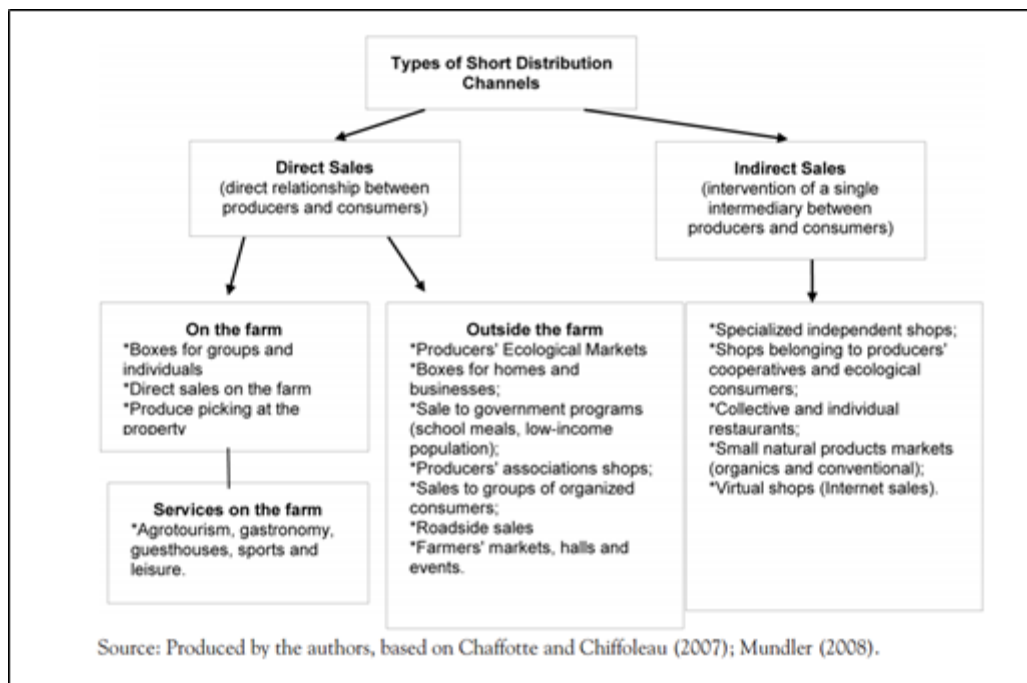


Figure 2. Types of short distribution channels for ecological products by Darolt et al. (2016)

Additionally, Darolt uses the following criteria to classify the distribution of ecological agricultural products and services in alternative trade networks:

- Regional representation
- How long the initiatives have been in operation
- Local recognition
- Working with ecological products
- Certification mechanisms
- Priority given to short distribution channels and alternative networks

Another classification comes from Chiffolleau et al. (2016), they identified two types of short food supply chains in France depending on the presence of an intermediary. When the producer conducts the sales himself the other actors belong to the same activity or are customers. Levels of organisation are more complex when one intermediary exists, and the buyers are not necessarily local, this type of short food supply chain involves the public and private sector as additional actors. In the case of that country, the French National Agricultural Census of 2010 reports that in France direct selling in farms and in open-air markets is the choice of farmers. As mentioned earlier, the stage at which AFNs exist in Mexico differs from other countries, and some characteristics are not manifested yet. In the case of Chiffolleau's classification, it is possible that an arrangement as the one suggested needed time and regulation to be differentiated. At present time in Mexico there can be more complex organisation structures in the making, but only some of them are consolidated.

Venn et al. (2006) propose another set of categories to identify alternative networks (Figure 3). It focuses on the degree of organisation and ranges from minimally organised entities such as community gardens and extends to the more established setups like farmers' markets and producer cooperatives. When this criterion is considered with the one of Darolt's it could suggest that only the most organised AFNs could be selected, but as mentioned, the Mexican AFNs range in their degrees of complexity and are in a continuous process of organisation.

Category	Explanation	Examples
Producers as consumers	Schemes where the food is grown or produced by those who consume it. Often promote healthy lifestyles. Extent of commercial orientation varies. Produce is usually sold on a local level but may be targeted at specific groups, e.g. low incomes, ethnic minorities.	Community gardens Community centres with specific food projects Community food cooperatives Allotment groups
Producer–consumer partnerships	Partnerships between farmers and consumers, where the risks and rewards of farming are shared – to varying degrees – due to subscription or share arrangements.	Community Supported Agriculture (CSA)
Direct sell initiatives	Farmers or producers cut out middlemen and sell direct to consumers. Can be direct face to face or over the internet.	Farmers markets Farm gate sales Adoption/rental schemes Mobile food shops Box schemes Producer cooperatives
Specialist retailers	Enable producers to sell to consumers more directly than through conventional supermarkets. Often sell high value-added, quality or speciality foods and may be targeted at tourists.	Online grocers Specialist wholesalers Tourist attractions

Figure 3. Categories of AFNs (Venn et al., 2006)

AFNs have started to play an important role in urban areas, this was relevant since the research took place in Mexico City. A case study by Jarosz (2008), conducted with actors of the local food system of Washington State, found that AFNs have political, cultural and historical backgrounds, and that their development in metropolitan areas is driven by urbanisation and rural restructuring. Additionally, the dynamic evolution of alternative food networks in urban areas does not occur in the same way for all producers in the network. It can be said that AFNs are not only to be approached by studying attributes but also processes that reflect their dynamic nature in the context of an urban and peri-urban area. However, a growing trend of AFNs is not necessarily related to an increase in the involvement of the local population, future research should focus more on the perspective of consumers.

AFNs are also agents of change in terms of the reconfiguration of the systems of production, distribution and consumption of food (Paül and McKenzie, 2013). Nevertheless, applying the term “alternative food network” to almost any new instalment of food exchange must be taken carefully (Venn et al., 2006). As Sonnino and Marsden (2006) point out, AFNs create a different spatial relationship in alternative agri-food networks (Figure 4).

Type of spatial relationships	DE-LOCALIZATION Conventional agri-food	RE-LOCALIZATION Alternative agri-food
<b>Producer relations</b>	Intensive production 'lock-in'; declining farm prices and bulk input suppliers to corporate processors/retailers	Emphasis on 'quality'; producers finding strategies to capture value-added; new producer associations; new socio-technical spatial niches developing.
<b>Consumer relations</b>	Absence of spatial reference of product; no encouragement to understand food origin; space-less products	Variable consumer knowledge of place, production, product, and the spatial conditions of production; from face-to-face to at-a-distance purchasing.
<b>Processing and retailing</b>	Traceable but privately regulated systems of processing and retailing; not transparent; standardized vs. other than spatialized products	Local/regional processing and retailing outlets; highly variable, traceable, and transparent; spatially referenced and designed qualities.
<b>Institutional frameworks</b>	Highly bureaucratized public and private regulation; hygienic model reinforcing standardization; national CAP support (Pillar I)	Regional development and local authority facilitation in new network and infrastructure building; local and regional CAP support (Pillar II).
<b>Associational frameworks</b>	Highly technocratic—at-a distance—relationships; commercial/aspatial relationships; lack of trust or local knowledge	Relational, trust-based, local, and regionally-grounded; network rather than linear-based; competitive but sometimes collaborative.

CHANGING COMPETITIVE SPATIAL BOUNDARIES

Figure 4. Spatial relationship in AAFNs (Sonnino and Marsden, 2006)

Nigh and González Cabañas (2015) recognise the alternative food networks as ideological spaces where the interaction between producers and consumers promotes change in the social and cultural values, leading to a motivated participation in the agro-food activities. This motivation reaches other sectors in society as collaboration increases to promote social change.

In addition, Jarosz (2008) mentions the “visions and discourses of local food cultures and their varied politics” as factors that also shape the networks, meaning that the actors of the food system and their interactions shape it. The study conducted by Si et al. (2014) in China also identifies trends of characteristics of AFNs, leading to the identification of some of the drivers or features (Figure 5).

Types of alternativeness	Elements of alternativeness	Representative AFN initiatives in China				Consumer motivations for each element
		CSAs	Farmers' markets	Buying clubs	Recreational garden plot rentals	
Food features	Healthy (free from chemical residues and more nutritious)	✓	✓	✓	✓	Strong
	Ecological	✓	✓			Relatively weak
	Local	✓	✓	✓		Relatively weak
	Seasonal	✓	✓			Weak
Relationships among stakeholders	Small-scale*		✓			Weak
	Social ties and personal connections	✓	✓	✓	✓	Weak
	Social justice*		✓	✓		Weak
	Political* **		✓			Weak

Figure 5. Trends of alternative food networks (Si, Schumilas and Scott 2014)

From the figure, the elements that provide alternativeness to these networks are rooted in food or in the relationships among stakeholders. This is a good starting point to observe the AFMs of Mexico City, due to the strong context based in interpersonal relations and the Mexican gastronomy. It can also be seen that the most similar AFN to the Mexican AFMs, the farmers markets, practically cover the whole spectrum of elements proposed by Si, et al. (2014).

#### *A term for the main Mexican AFNs*

The term “Alternative Food Network” has been widely used in countries of Northern Europe, whereas the terminology tends to be different in Southern Europe. In France and Italy, the terms “short food supply chains” (Chiffolleau, et al., 2016), and “short agri-food chains” (Bazzani & Canavari, 2013), are widely used. A similar term is also found in Mexico (Spanish: “cadenas cortas agroalimentarias”) (FAO, 2016a).

The work of James and Friel (2015) situates the research in the alternative-commercial subsystem of food in urban areas, whilst the AFN characteristics proposed by Darolt, et al. (2016) helped to refine the search of case studies. As the research was being carried, it was found that no existing term matched the selected case studies in Mexico. A decision was made to propose a distinctive term that could serve the purposes of the research.

In Mexico, the National Network of Organic Markets (REDAC), began to group AFN venues as “organic markets”, later, Escalona (2009), Bustamante and Schwentesius (2018) added the term “tianguis”, to differentiate the venues that take place outdoors from the ones indoors. The concept of an AFN in Mexico inevitably carries a meaning of reconnection to traditional food varieties, cooking and production techniques, a task that belonged in pre-Columbian times to



the tianguis and more recently to public markets. To some extent, traditional markets would be closer to the concept of AFNs, however, their emergence and purpose are different.

In this sense, the Mexican organic markets of the REDAC Network, must be understood in the first place as “alternative to the industrialised organic”, as the Mexican regulations have followed their USDA counterparts to standardise trade between countries and facilitate Mexican exports (Schwentenius, et al., 2014).

In this thesis I refer to the case studies as “Alternative Food Markets” to avoid confusion between the objects of study and other types of AFNs. The inclusion of a unique term allowed to study the Mexican Alternative Food Markets from a clean perspective, giving the researcher the opportunity to study them as they have emerged from their contexts.

In this thesis, an Alternative Food Market is a site of AFN and agroecological practice that enacts change within the food system.

In modern Mexico, especially in Mexico City, the reconnection between producers and consumers is primarily done through the Alternative Food Markets. They are the most distinctive type of AFN in Mexico and have led the changes in food patterns of production and consumption.

The Mexican AFMs took the national market as a niche, after most Mexican organic food was destined to exports and can be considered as conventionalised or industrialised. The first case study or AFM01, is “alternative to the industrialised organic”. The second case study or AFM02, despite from being also a member of the REDAC Network, departs from organic certifications to open the possibility to other ways of food production (artisanal, traditional), and should be understood as “alternative to organic certified”, however, the AFM02 does not restrict producers from having organic practices or certifications.

### 2.2.3 AFNs, sustainability and hybrid agroecological practices

The practices that eventually created the spaces where AFNs emerged in Western Europe and North America, were seen at the beginning as minor or eccentric, like organic agriculture (Goodman, et al., 2011). In Mexico, on the opposite, practices grouped under the umbrella-term “Agroecology” have a hybrid origin between the traditional and the conventional. The key aspect of agroecological practices is that they are context-based and aim at the preservation of biodiversity and social justice (Toledo & Barrera-Bassols, 2008). However, there are antecedents of previous sustainable agriculture movements that have departed from their original

oppositional stand and have adapted themselves to the market logic (Allen, et al., 2003; Buck, et al., 1997).

At the Mexican AFMs, the concepts from northern countries merge with the existing local food movements producing a hybrid set of agroecological practice and principles. In this section I will present the literature backing them up that leads to a proposed analytical framework.

#### *AFNs, sustainability and conventionalisation*

The connection between AFNs and sustainability is not new, the health of the Earth and the food system are mutually dependant, agriculture is one of the human activities that contributes most to greenhouse gas emissions, agriculture and land use represent one-fourth of world emissions (FAO, 2018c). Degradation of the Earth systems has accelerated in the past 50 years and changes in land and sea use have been identified as the key drivers of harmful change in ecosystems according to the IPBES report of 2019 (IPBES, 2019). In the context of biodiversity, AFNs may present an alternative to industrialised countries of North America and Europe where the number of breeds at risk of extinction is high due to the highly specialised agri-food industries (Simoncini, 2015).

There seems to be a consensus about the compromised sustainability of the food system as a global challenge for the environment, producers and consumers. Some authors point at the shortcomings of nutrition, sustainable supply and equality in the distribution of food (Kneafsey, 2010), as well as consumers being more disconnected from the origin of their food (Pretty, 2002). Other authors keep pointing at the effects of industrial agriculture, that despite creating abundance for industrialised countries, has brought pollution in air, soil and water due to its reliance on fossil fuels, has created poor conditions for animals at industrial facilities (Weis, 2007), and created struggles over the intellectual property that corporations intend to have over genetic resources (Tansey & Rajotte, 2008) and the effects on cheap diets which degrade the environment and impact negatively health care (Lang, et al., 2009).

Social movements also point at the convergence between sustainability and AFNs. For Goodman, et al. (2011), AFNs are a “new wave” of the social activism of the twentieth century, manifested as “hopes and visions that the world could be transformed by protest-and-projects activity”. The resiliency of social activism gave birth to AFNs as “a vision that people, by eating differently, can change the worlds of food as well” (Goodman, et al., 2011, p. 3).

For De Fazio, (2016), the increasing number of participants in the food supply over the last decades has produced adverse environmental effects, longer supply chains have implemented intensive farming methods and increased the travel distance of the goods; economically it has

lowered the share of benefits for farmers and excluded the small producers from the market; socially, it has made it impossible for customers to trace the origin of the food and standardisation has lowered their quality standards; from a territorial point of view, they have promoted unemployment, depopulation and migration. De Fazio believes that short supply chains can overcome those effects and help policymakers to implement sustainability in the agricultural supply chain.

There have been effects on people in underdeveloped countries, like the loss of traditional knowledge, practices and the derived livelihoods (Wright, 1990; Shiva, 2009), and the loss of biodiversity (Grey, 2000).

Research on AFNs helps to gain understanding of the environmental and social realities of the food system, whilst providing evidence of the need for change in food production trends (Kloppenburger et al., 1996). The search for sustainability-linked characteristics of alternative food networks has produced a series of studies either based on literature (Forssell and Lankoski, 2014) or leading to case studies of short food supply chains (Galli and Brunori, 2013) and interviews of key actors of alternative food networks (Morris and Kirwan, 2011).

The processes that accompany the creation of AFNs can contribute to the sustainability of a food system. Wiskerke (2009), proposes the paradigm of “integrated and territorial” food. It implies that regionalisation leads to a differentiation of the food quality as a reflection of the employed farming systems. This process is not completely detached from the conventional food systems, an important thing to remember, there are authors that acknowledge the high competitiveness of both systems and their mutual relations, leading to one converting in the other (Ilbery and Maye, 2005; Sonnino and Marsden, 2006), or in the most critical views, leading to the conventionalization of the alternative (Buck, et al., 1997; Guthman, 2014), however, authors like Goodman et al. (2011) consider that most AFN limitations can be resolved.

The position of AFNs to highlight the contradictions of the conventional food system (Goodman, et al., 2011), visibly coincide with the pursuit of sustainability, trying to tackle:

- Food insecurity
- Malnutrition of over one billion people
- Interrelated ecological and livelihood crises
- Compelling evidence of global resource constraints on intensive, fossil-fuel dependent conventional agriculture

- Crisis-proportions of disease associated with Western lifestyles and diets rich in animal fats and industrially processed foods.

The main characteristics of AFNs for Goodman et al (2011), proposed by activists in response to the challenges posed by the conventional food system are part of sustainability discourses too:

- Mapping different ways forward
- Creating new economic and cultural spaces for the trading, production, and consumption
- Food that can be identified as organic, fair trade, local, quality or “slow”
- Ethical and aesthetic alternative “qualifications” that can differentiate them from conventional, international, mainstream-manufactured and supermarket foods.

On the downside of AFNs and sustainability, Goodman et al (2011) argues that once the ethical and aesthetic attributes existing in AFNs are commoditized, they are “open to mainstream capture that threatens to neutralize the social projects and critical ambition of the alternative food and fair trade movements”, and the alleged interface between what is “alternative” and “conventional” has become “permeable and confusing as actors compete to control these new income streams”. The same author suggests that the nature of the food system actors can be better understood if it is considered as imperfect and the emphasis is put in the politics of consumer-producer relationships. Despite departing from an ideal approach towards sustainability, considering that some AFNs have not reached that stage in their development, there is a chance that they may evolve differently in areas of the world that do not fall in the critical or celebratory cases of those AFNs in the North.

Another risk that can take AFNs far from sustainability is, according to Goodman et al (2011), the idealized vision of “good food” and particular ways of life related to it, arguing that they are “easy prey for mainstream branding”. This idea would give more credibility to those AFNs that are not market-based or that have changed to become new food movements.

For Goodman et al (2011), if it is preferable to approach the study of AFNs as “an improvement” or “an idea of a process”, then their understanding is “relational and process-based rather than perfectionist”. For Goodman the attempts of conversion “that seek to change the world by embracing a perfect vision of an alternative world based on a fixed, static set of values, whether of the “good life” or “good food””, is not a first option when trying to rethink the social world where AFNs occur. These ideas will be important for the analysis of AFNs as potential promoters of sustainability in the food system of Mexico City.

### *Hybrid agroecological practices and principles*

According to the literature, AFN processes of emergence and features show a commitment to sustainability. In this subsection agroecological practices are proposed as a set to analyse the case studies. However, the scope of the present work does not have the means to prove and measure their present and future effect in the field known as sustainability transitions, due to their multi-causal, long-term nature (Geels, 2004), this represents an opportunity for future research.

Agroecology emerged in Mexico after the work of Efraím Hernández Xolocotzi on agroecosystems and traditional agricultural knowledge. These concepts are rooted in ethnoscience approaches to understand the way in which the local people from different localities in Mexico made use of their resources, being ethnoagronomy the one that his students have put most work on (Cruz-León, et al., 2015). In the same way, food systems study how people organise around production, distribution and consumption of food (Malassis, 1994).

Agroecological practices can be considered as holistic in the use of natural resources, protection of ecosystems and biodiversity; they are the fruit of the work of agronomists and ecologists documenting and systematising the scientific evidence of the benefits of traditional agriculture since the 1970s in countries like Mexico (Astier, et al., 2017). In recent years, the studies of agroecology have focused in concerns raised by industrial agricultural inputs and climate change (Gliessman & Engles, 2015).

Agroecological practices can complement the current AFN features used in this thesis and put them in the Mexican context. In general terms, agroecological practices are not limited to a specific latitude but are exchanged among producers in a constant reinvention and renovation. In this sense, peasants are at the centre of the food system transformation (Altieri & Toledo, 2011).

AFNs and agroecological research coincide in a shift towards sustainability, of food production systems with a lower environmental impact than conventional ones (Gliessman & Engles, 2015). Change in the food system should take into account “social, cultural, agrarian and political factors, and the principles of self-management, self-sufficiency and self-government”<sup>10</sup>.

Approaches towards sustainable food systems and their features have appeared in different contexts in recent years, some of the most comprehensive have been made public by the

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<sup>10</sup> [http://www.biodiversidadla.org/Documentos/!En\\_Mexico\\_la\\_Agroecologia\\_es\\_Politica](http://www.biodiversidadla.org/Documentos/!En_Mexico_la_Agroecologia_es_Politica)

government of Calgary in 1999<sup>11</sup>, the Kindling Trust in 2014<sup>12</sup> and FAO (2018a). References to sustainable agriculture are also of common use by the USDA<sup>13</sup> and the Government of Mexico<sup>14</sup>.

#### Set of hybrid agroecological practices and principles for the Mexican AFMs

The set of hybrid agroecological practices and principles at the Mexican AFMs were found in one or more of the following themes during the coding of the data collected<sup>15</sup>:

- Production: comprising producer background, products, production site, production type and production techniques
- Distribution: from the production site to the AFM
- Socio-economic: reconnection between producers and consumers; education and cultural activities around food; create welfare and improve livelihoods for producers and their communities
- Ethnovarieties: those practices not found in AFN literature from Europe and North America

The practices and principles comprise the following:

#### Production

- Sustainable and efficient use of forest and resources
  - Organic, agrochemical free production
- Restoration, preservation or enhancements of ecosystems and landscape
  - Biodiversity benign
  - Organic insecticides, pesticides and compost
- Lowering carbon in food production
- Focus on animal welfare
- Innovation in farm technologies

#### Distribution

- Environmentally friendly packaging
- Transportation and shared goods at stalls
- Lowering carbon in food distribution

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<sup>11</sup> <https://www.calgary.ca/CA/cmo/Pages/Definition-of-a-Sustainable-Food-System.aspx>

<sup>12</sup> <https://kindling.org.uk/what-sustainable-food>

<sup>13</sup> <https://nifa.usda.gov/how-sustainable-agriculture-relates-sustainable-development>

<sup>14</sup> <https://www.gob.mx/agricultura/articulos/sader-y-cimmyt-juntos-por-una-agricultura-responsable-y-sustentable?idiom=es>

<sup>15</sup> The categories follow the general structure of the semi-structured interviews. For more details on the data collection, coding and analysis, please see section 3.2 and 3.3

- Reduced travel distances
- Transportation

### **Socio-economic**

- Reconnection between producers and consumers
  - Education and cultural activities around food
  - Knowledge exchange
  - Creation of trust and social embeddedness
  - Excursions and visits to production sites
  - Organic and participative certifications
- Creation of welfare and improvement of livelihoods for producers and their communities
  - Self-sufficiency, dignified income
  - Labour recognition
  - Creation of fair trade and fair prices
- Partnerships, cooperation and communication with other actors of the food system
  - Sales in different places
  - Training and funding from academic institutions or organisations
  - Creation of partnerships and other distribution channels
  - Shared risk in food production and distribution
- Scaling-up
  - Creation of cooperatives and family businesses, some entrepreneurial projects
  - Capacity building for exports

### **Ethnovarieties**

- Preservation of local food varieties (in Spanish: “variedades criollas”), and their seeds
- Usage of pre-Columbian farming techniques
- Preservation and dissemination of local gastronomy
- Traditional, pre-Columbian methods to manage the crops, harvest and diet

These practices and principles follow an arrangement that enables change in the food system and moves it in a more sustainable direction (Gliessman & Engles, 2015), allowing a transdisciplinary, participatory and action-oriented approach (Méndez, et al., 2013). Wezel and Soldat (2009) propose three approaches depending on scale: starting at the plot or field, then farm and finally the food system. Gliessman and Engles (2015) proposes five levels for the change of a food system (Figure 6), beginning at farm level with the increase of efficiency of the

industrial/conventional practices already taking place in order to reduce the usage of non-sustainable inputs (level 1), followed by the substitution of those inputs and practices (level 2), leading to the redesign of the agroecosystem, making its functioning based on a new set of ecological processes (level 3). At a broader scale, the change proposes the reconnection of growers and consumers (level 4), culminating in a new global food system “based on equity, participation, democracy, and justice, that is not only sustainable but helps restore and protects earth’s life support systems upon which we all depend”. (Gliessman, 2016, p. 188). At the final level, Gliessman proposes that the change reaches spheres beyond the food system “to the nature of human culture, civilization, progress and development” (ibid., p. 188).

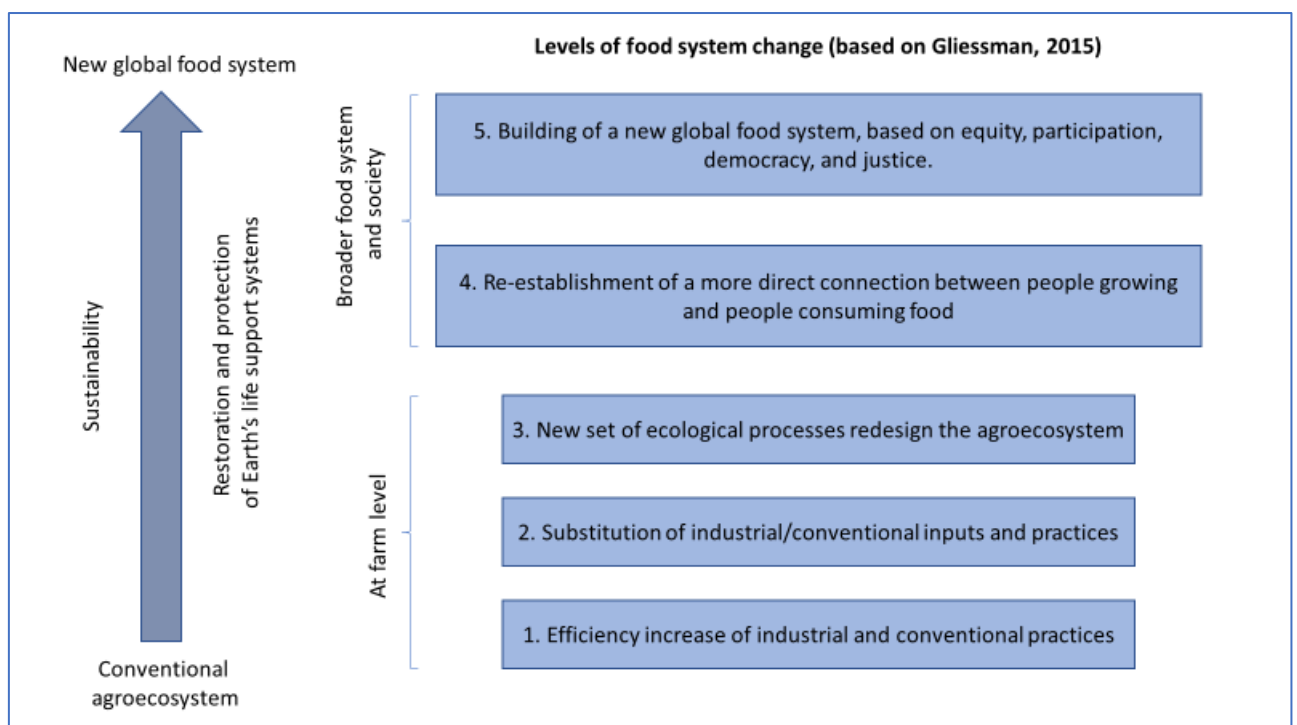


Figure 6. Levels of food system change. Based on Gliessman and Engles (2015)

The approach suggested by FAO (2018b), is more specific about actions that happen at the different levels of the food system. At farm level, the practices and principles should contribute to diversity as the optimisation of species variety and genetic resources, once knowledge is co-created and shared among producers, synergies are formed; the effects of these are seen in resource efficiency, recycling and resilience building; then there are social impacts on human values, culture and traditions around food; in a final stage, governance and economy can be also improved (FAO, 2018b).



To link practices and principles to AFN contributions to sustainability needs an arrangement using the three pillars of sustainability. AFN practices and principles can have an impact through environmental protection, farmers welfare, welfare of the community and local development (Mundler & Laughrea, 2016), which are also found as impacts to economic, social and environmental sustainability (Forssell & Lankoski, 2014).

The following analytical framework considers the proposed arrangement for the hybrid agroecological practices and principles as well as the levels they follow to contribute to the sustainability of the food system.

### 2.3 Analytical framework

The proposed analytical framework comprises three themes that are key to understand the main AFN arguments that this thesis can help advance. It is the backbone to structure the thesis chapters (see Figure 1).

The Mexican case can inform the AFN literature on:

1. Emergence.
2. Practices and principles.
3. Potential contributions to the sustainability of the food system.

#### Emergence

Previous social and agricultural movements have created spaces for the development of AFNs. Firstly studied in developed countries of Europe and North America, the Mexican cases can refine the understanding of food movement trajectories leading to the emergence of AFNs, especially since AFNs in Mexico emerged after the quality turn and were in their beginning strongly related to an increase in organic food demand from northern countries. The emergence is also key to understand the features of new AFNs.

#### Practices and principles

The Mexican case can show that local context influences the type and style of the emerging AFNs. Both conventional and traditional agricultural practices have coexisted and dialogued since the 16<sup>th</sup> century, with a rapid deterioration of ecosystems and social conditions of small-scale producers during the 20<sup>th</sup> and 21<sup>st</sup> century. The set of hybrid agroecological practices and principles proposed in section 2.2.3, created for the data collection and refined after the coding will be of use to analyse the case studies and discuss the potential contributions of the AFMs to the sustainability of the food system.

### Potential contributions to the sustainability of the food system

The sustainability of Alternative Food Networks has been put under scrutiny in the literature, the Mexican case can provide additional information to debates offering a view from a different latitude. In the context of a country with high social inequality, the use of agroecological practices, have been for many small-scale producers the ideal choice to keep dedicating their lives to agriculture and improve their livelihoods.

From the features and practices discussed in this chapter, potential contributions to the three pillars of sustainability will be discussed for each case study.

### Summary of the main arguments in AFNs that this thesis can help advance or refine

The section 2.3 has the outlined analytical framework using the literature review. The chapter will finish with a summary of the AFN arguments that this thesis intends to advance or refine.

#### *AFNs Emergence*

- Food movements that preceded AFNs in Mexico. Types of emerging AFNs in Mexico. How their characteristics compare to AFNs from developed countries. A glimpse into how the context of a country or region may shape them.
- The background of the participants that constitute new AFNs. Participant backgrounds shaping AFNs.
- Emerging AFNs becoming the cradle for new food movements in Mexico.

#### *Hybrid agroecological practices and principles at AFNs*

- Trust and embeddedness
- Welfare of producers and their communities
- Organic agriculture playing a role in the emergence of AFNs in countries far from core capitalist economies
- Agroecological practices as alterity enablers. Particularly when small-scale, family-based producers exchange them

#### *Potential contributions of AFNs to the sustainability of the food system*

- Potential environmental, social or economic contributions to sustainability based on AFN literature and found in the practices and principles of the case studies<sup>16</sup>.

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<sup>16</sup> The thesis does not intend to prove or measure the sustainability of such contributions, they will be only a guideline for future research and will offer a glimpse on the development of AFNs in Mexico.

## Conclusions

This chapter presented a literature review on AFNs. The main body of literature on AFNs comes from Western Europe, USA and Canada, opening an opportunity for the Mexican case.

AFNs emerged in developed countries as a reaction to the industrialised system. Food movements from the 20<sup>th</sup> century played a role in the creation of spaces where AFNs could emerge. A revalorisation of food expressed as organic farming, back to the land, among others drove small-scale producers to create spaces to sell their products. The reconnection between producers and consumers through AFNs has reconfigured the food supply.

Core AFN features are found in the vision, goals and practices of producers. AFNs can build trust and embeddedness, improve the welfare of producers and improve the environment.

The types of AFNs led to propose a term for the Mexican cases, “Alternative Food Market”. This AFN is market-based and follows most of the criteria set by Darolt, et al. (2016). This concept departs from conventional channels of production and distribution with the particularity of being context-based. For its study, a set of hybrid agroecological practices has been proposed.

The set will allow to inquire about links between the Mexican cases and sustainability, a frequent topic of research on AFNs. It will comprise the stages of production, distribution, socio-economic aspects and ethnovarieties. It intends to trace the AFM potential contributions to sustainability from the production site to the broader food system, looking at the emergence, practices and principles of the producers.

The chapter concludes with a summary of the main arguments in the main body of knowledge that the thesis intends to advance or refine.

The Chapter 3 will deal with the research methodology.

## Chapter 3. Research Methodology

### Introduction

This chapter will address the elements of the research process that will answer the proposed research questions, it is outlined in four sections. Section 3.1 introduces the research design; section 3.2 describes the methods of data collection; section 3.3 explains the data analysis, section 3.4 presents the reflections of the research process.

### 3.1 Research Design

In this section the design of the research is presented, it begins with research aims and research questions, then it introduces the philosophical stance, methodology, approach method, population and sample. The study adopts a qualitative approach, which aims at exploring the main themes happening at AFMs. The research comprises two case studies nested in the same context. The data collection techniques used were semi-structured interviews to analyse AFMs, after which workshops and follow-up interviews were conducted to inquire into the practices at AFMs. Additionally, observations were recorded along the research process.

#### 3.1.1 Research Aim and Research Questions

Through two illustrative AFMs of Mexico City as illustrative case studies, this thesis aims to understand the role of Alternative Food Networks as spaces of change that can contribute to the sustainability of the food system. The aim is investigated by answering the following research questions.

The first research question aims to understand the factors contributing to the emergence of AFMs and their distinctive features:

*RQ1: What factors contributed to the emergence of Alternative Food Markets in Mexico City and what are their distinctive features?*

The second research question focuses on the practices and principles at the AFMs:

*RQ2: What distinctive hybrid agroecological practices and principles are used by the participants of the AFMs of Mexico City, and how are they adapting to the challenges of ongoing conventionalisation?*

The third research question aims to inquire into the potential contributions of AFMs to the sustainability of the food system

*RQ3: What potential contributions to sustainability can AFMs bring to the food system of Mexico City?*

The fourth and last research question inquiries into the contributions of this research:

*RQ4: How can this thesis contribute to a better understanding of the potential of Alternative Food Networks from Mexico as sites of practice towards more sustainable food systems?*

### 3.1.2 Philosophical stance

#### *Initial considerations*

The chosen philosophical stance is constructivism, this will allow to see how the AFMs are shaping the food landscape of Mexico City. Constructivism takes into account the ideas of people, their consciousness, and it is open to idealism and is suitable for a holistic perspective, which would lead to renovated frames of thinking and understanding alternative food production and distribution. The selection of the philosophical stance has followed an intuitive and reflective process of what is already known on the topics, not yet from the analysis of empirical data, but will be tested against it.

#### *Research positioning*

The choice of methodology and methods is fundamental because it relates to the assumptions about reality that are brought into the research. The four elements listed by Crotty (2012) that inform one another in research are epistemology, theoretical perspective, methodology and methods.

Ontology considers the nature of existence and what constitutes reality. In Western philosophy, the Parmenidean ontological tradition of being has prevailed. According to Gray (2014), reality is composed of entities that are clearly formed and have properties that allow to identify them. These entities can be represented by symbols, words and concepts. Language and signs represent the external world in an accurate way. An ontology of being does not necessarily lead to unitary and holistic epistemological positions, the objectivist epistemology proposes that reality exists independently of consciousness, looking for an objective reality in the external world. Subjectivity is not rejected, the subjective views of the people, such as beliefs, can be studied in an objective way (Bunge, 1993). For Crotty (2012), it informs the theoretical perspective, whilst ontology and epistemology emerge together, in a process that constructs a meaningful reality by talking about the construction of meaning.

As for epistemology, it studies the nature of knowledge and is embedded in both a theoretical perspective and the methodology, it allows a way to know the things we know (Crotty, 2012).

Positivism, a theoretical perspective, is related to objectivism and prevailed for several decades in social science, it states that the study of reality has to follow rigorous scientific inquiry (Gray, 2014). On the other side of the spectrum, constructivism rejects the idea that truth and meaning

exist in an external world. Subjects are constructors of their own meaning, even if the phenomenon they observe is the same. Constructivism supports the idea that several accounts of the world may exist, even if they are contradictory.

According to Crotty (2012), the theoretical perspective is a philosophical stance that informs the methodology. Constructivism is more in accordance with an interpretivist position and Weber's concept of "verstehen", leading to the "understanding of something in its context", it also relates to the possibility of people responding in different ways to the same stimulus (Holloway, 1997). For constructivism, actions depend on the context, time, location and the minds of the participants (Holloway, 1997).

### 3.1.3 Methodology: Qualitative

It must be mentioned that aside from the nature of the study, data availability plays an important role in deciding the data collection approach. In the case of California, Guthman had databases available to conduct her research, a situation that is yet to happen in Mexico. Considering this, it was of great interest to pursue a qualitative approach of the agroecological practices in the AFMs of Mexico. Such analysis has the potential to set the ground for future research, informing on the potential of AFMs to enable the reconnection between small scale producers and the national food production, with the added potential to contribute to the sustainability of the food system.

The definition of Qualitative Research by Denzin and Lincoln (2011) situates the role of the observer in a situated activity, and the impact it has in the world; the qualitative inquiry makes interpretations of the world, interprets it and makes it visible. For Creswell (2013), the concept needs of assumptions before the interpretation informs the study, location implies interactions in a natural setting; for him, the design of the final report is a key contribution.

Qualitative research has a design, but less restrictive than traditional ones (Yin, 2009). The SAGE Handbook of Applied Social Research Methods (Bickman and Rog, 2013), points at activities that happen simultaneously: data collecting and analysis, theory development and modification, research questions elaboration or refocusing and emergence of validity threats.

Creswell (2013) has built a set of characteristics of qualitative research based on the work of LeCompte and Schensul (1999), Hatch (2002) and Marshall and Rossman (2010). The parallels between those characteristics and this research project are presented in Table 2.

Qualitative Research Characteristic	Presence in the research project	Description/ role in the research project
Natural setting	Yes	The data collection took place directly at the place of the context (Alternative Farmers' Markets in Mexico City). The interviews were conducted in person with the Food Producers.
Researcher as key instrument	Yes	The researcher collected the data by interviewing Food Producers and market organisers.
Multiple methods	Yes	Data was collected in interview form and through observations.
Complex reasoning through inductive and deductive logic	Yes	The organisation of data started with the Food Producers and will be inductive, creating a case study for each of the two selected AFMs  The interaction with the participants allowed a more accurate shape of the themes.
Participants' meanings	Yes	The research held on the meanings expressed by the participants. In consequence, it is possible that several perspectives will be reflected.
Emergent design	Yes	The design of the research experienced slight changes and adjustments while on the field. It aimed to procure the best practices to collect the data.
Reflexivity	Yes	The researcher put to the best use his background to inform on the AFMs.
Holistic account	Yes	A rich panorama of the AFMs and other key actors will be studied to understand potential contributions to the food system of Mexico City.

Table 2. Qualitative Research Characteristics of the research project. Adapted from Creswell (2013)

Regarding the use of qualitative research, Creswell (2013) points at its use when an issue must be explored; the act of exploring unveils variables not available through measuring. In this research project, the issues to be studied are the EPPC at Alternative Food Markets.

About the detail needed during performing qualitative research, Creswell (2013, p. 84) comments: “This detail can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature”.

Key elements for Creswell (2013) to conduct qualitative research are the empowerment of individuals, the wish to understand the context of the problem and explain the mechanisms of theories or models. Empowering individuals minimises the relationships of power between the researcher and the individuals in the study and allows the collaboration, feedback and involvement of them in the research. The context creates a bond between the people and their surroundings, necessary to understand the issue. Finally, the mechanisms will reveal the relationships between the theories applied in the research.

#### 3.1.4 Inductive approach

In inductive reasoning, particular propositions created from particular cases are organised into more abstract units of information, leading to general propositions such as patterns, categories and themes. Theories are built from specific instances, the process “involves researchers working back and forth between the themes and the database until they establish a comprehensive set of themes” (Creswell, 2013, p. 82).

For Creswell (2013, p. 82), the inductive logic “may also involve collaborating with the participants interactively, so that they have a chance to shape the themes or abstractions that emerge from the process”. For Thomas (2016), generalisation following the natural scientific method leads to induction across social sciences. It must be observed that generalisation does not work in the same way between the natural and social sciences and will be restricted by social variability and human agency (MacIntyre, 2007).

This research aims to identify a diversity of themes from semi-structured interviews and observations. The interaction with participants will be key in the data collection, their opinions will determine the abstractions and results. The research will take place in a specific context and will be influenced by agency. For these reasons, it seems most appropriate to propose a general inductive process of reasoning.

It is worth to mention that the inductive and deductive logics coexist in qualitative research. For Creswell (2013, p. 82), a deductive reasoning plays a role when researchers “build themes that are constantly being checked against the data”, the inductive-deductive process indicates that “the qualitative researcher uses complex reasoning skills throughout the process of research” (ibid, p. 82).



### 3.1.5 Method: Case Studies

For this project, a case study approach will be followed, adopting the principles outlined by Stake (2008) and Yin (2009). It will consist of an empirical way to perform an analysis of the subjects, obtaining knowledge rich in context from each case. In situations where the exploration of a complex phenomenon is needed in a holistic and in-depth way, case study research is considered a robust method. The case study allows the researcher to perform a close examination of data within a determined context. Usually, this method selects a small area or a limited number of individuals as subjects of study. This method investigates contemporary phenomena in a real-life context through the analysis of a limited number of events or conditions, and their relationships (Yin, 2009).

Depending on the issue in question, the researcher can opt for a single-case or multiple-case design, depending on the occurrence of the phenomenon. A drawback of a single case is that it is not possible to produce a generalizing conclusion, especially when the events are scarce. A way to solve this is by triangulation of the study with other methods in order to confirm validity. For a multiple-case study a number of real-life events can be selected as sources of evidence, the generalization of results from case studies lies on theory more than on populations (Yin, 2009).

An advantage of using a number of case studies is that examination can be performed within the context of use or situation in which it takes place (Yin, 2009). Case studies may rely on qualitative data but also can be based on quantitative evidence. The complexity of real-life situations that may not be easily captured by performing surveys or experiments can be accessed through case studies.

The disadvantages of case studies may be a possible lack of rigour or biased views that may lead the findings and conclusions in certain directions. Case studies may produce a narrow chance to generalize due to the small number of subjects used (Tellis, 1997), also, they may be too long, leading to a vast amount of documentation (Yin 2009). The setting of an objective and parameters is more important than the size of the sample.

Since the research questions of the project deal with the “what” and “how”, an exploratory case study approach will provide a better treatment of the findings. It will also relieve the necessity of a rigid hypothesis as happens in positivism. Adapted theoretical frameworks will be of use to conduct the research and well collected data.

Two case studies will be constructed, one for each AFM. Each case will involve more than one unit of analysis (the food producers) This approach is followed when two cases share the same context and it is desired to evaluate several nested units of analysis (Yin, 2009).

#### *Timeframe: Cross sectional*

Case studies have boundaries, depending on the context and time. A cross-sectional study uses a “snapshot” approach where the data are collected at one point in time, whilst a diachronic study shows change over time (Thomas, 2016). Most research studies are cross-sectional, mainly because of the pressure of time and resources. This is the situation in this project despite being conducted in a highly dynamic and changing environment, although in the future, a longitudinal research could be devised.

Two cross sectional studies will be conducted during the time of the research, comprising 3 years approximately. They will be created looking at one instant in the development of AFMs in Mexico City, corresponding to the dates of the data collection and in the first places is not intended to show change over time but since the nature of the AFMs is of rapid change it may be the case that small changes may be highlighted. As a result, the narrative presented will display the AFMs as a snapshot.

#### *Selection of the case studies*

The selection of case studies considered criteria from the AFN literature and the Mexican context. The selection process is described in detail in sections 3.1.6 and 3.1.7.

Selection criteria:

- The “commercial alternative” as the food subsystem where the case studies are nested, after James and Friel classification (2015) and Yin (2009) suggestions.
- The AFN attributes from the literature, covered in section 2.1, allowed to discard AFN types with high differences to the Mexican cases. The lack of a perfect match led to propose the term “Alternative Food Markets”.
- Previous work listing the REDAC Network organic markets of Mexico (Nelson, et al., 2008; Escobar-López, et al., 2016), combined with desk work (internet research, emails, phone calls), in the early stages of the research.
- A set of selection criteria, adapted from Darolt, et al. (Darolt, et al., 2016), including availability of the participants.

#### *Why not “farmers markets”*

The Mexican cases do not match the concept of farmers markets from northern countries. From Figure 5, coincidences point at being community-supported, changing the practices of

stakeholders through personal relations and promoting context that improved their practices and knowledge exchange (Chiffolleau, et al., 2016; Griffin & Frongillo, 2003). They also go beyond the idea of value-based supply chains where actors share awareness of sustainability (Feenstra & Hardesty, 2016). However, the Mexican cases face different challenges outside the power of communities and the links between social stakeholders are varied, usually context based. The Mexican cases are heterogeneous in nature and cannot be put in one category describing them all, the range of products and producers are larger compared to farmers markets in studies like the one of Griffin and Frongillo (2003), restricted to fruits and vegetables. The Mexican cases include educational and cultural activities around food and organise excursions to production sites for both producers and consumers. Griffin and Frongillo (2003) also point at the clash of different visions about how things should be run at farmers markets, whereas in Mexico, it is accepted to have projects with different visions and producers can create new networks instead of being in conflict.

The Mexican cases continued to develop their own identities and practices as the research progressed. They keep some links with citizen initiatives, but cannot be classified just as CSA projects, they cannot be either just market-driven projects because they overlap and give birth in more than one case to other food movements. The inclusion of small-scale, family-based producers does not restrict them to sell only at markets, but they have developed a wide range of selling alternatives. In the Mexican case the remnants of pre-Columbian practices differentiate them from farmers markets in Europe and North America.

### 3.1.6 Population

In this section, I present the process to situate the research in Mexico, choosing a population of Alternative Food Networks in Mexico City and in the following section, selecting a sample of illustrative markets. Research conducted by James and Friel (2015), shows that in an urban food system, the conventional, alternative and civic food subsystems are interconnected (Figure 7). This research focuses in the Alternative Commercial subsystem; therefore, it was important to define criteria to find and select the best possible AFNs for the case studies that could preferably prevent overlapping with the industrial and civic sectors.

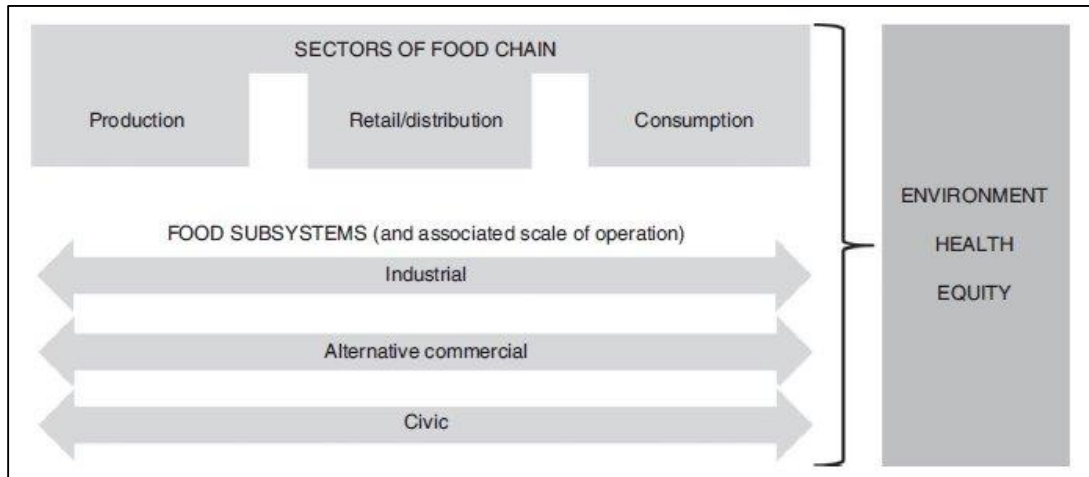


Figure 7. Urban food subsystems (James & Friel, 2015)

According to the classification created by Darolt, et al. (2016), sale points of Alternative Food Networks belong in the following three categories:

1. Direct Sales Outside the Farm in Producers' Ecological Markets, Farmers' markets, halls and events.
2. Indirect Sales at Specialized independent shops, Shops belonging to producers' cooperatives and ecological consumers, Small natural products markets (organics and conventional)
3. Services on the farm. This last category can be considered as an additional activity organized by the local food markets to introduce the general public to the alternative agriculture and create bonds of trust between consumers and producers.

In Mexico, AFNs have emerged mainly as organic and alternative markets, in particular the Alternative Food Markets that conform the REDAC Network. These markets fall in the first category of Darolt, they consist of direct sales that take place outside the farm, like markets and tianguis<sup>17</sup>. According to the REDAC Network, there were in 2016 more than 50 organic and/or alternative markets in Mexico (See Appendix I), most of them have been listed in works by Nelson, et al. (2008), and Escobar-López, et al. (2016).

<sup>17</sup> The classification of these ecologically based agricultural experiences by Darolt, et al., took place in France, a country with an old tradition of local markets, and Brazil, a South American country with similar geographical and cultural traits to Mexico.

The research project proposes the Alternative Food Markets selling products from the urban and peri-urban areas of Mexico City belonging to the REDAC Network. With the aid of Darolt's work as a reference<sup>18</sup>, a set of criteria was proposed to select the population:

1. Being based in Mexico City, the selected region for the research project.
2. Using the concept of market or "tianguis" (pre-Columbian term), according to the participants of the non-conventional food supply chains in Mexico.
3. An organic or agroecological approach to offer their products.
4. Promoting the participation of local producers in local trade, in order to identify AFNs.
5. A minimum of 3 years in operation, assuring recognition by the community.
6. Recognisable attendance from consumers on a weekly basis. Some tianguis or markets take place once every two weeks or monthly.
7. Using money in the exchange of products. Other AFN initiatives use barter or alternative currencies. This seventh criterion has been added by the researcher to restrict the population and the sample to the characteristics of the Alternative Commercial Sector of the Urban Food System<sup>19</sup>.

The resulting population consisted of five markets of the REDAC Network located in Mexico City, and three in the surrounding states (Puebla, Tlaxcala and State of Mexico), but only two complied with all the criteria to conduct the research.

### 3.1.7 Sample

The researcher chose the two AFMs to be the case studies from a population found in previous work by Nelson, et al. (2008) and Escobar-López, et al. (2016), who identified and listed the markets conforming the REDAC Network by state. The classification proposed by Darolt et al. (2016), helped to refine the search, considering a single AFM location and their frequency of operations. Those markets that worked in an itinerant way were discarded, securing that participants could be found on a frequent basis.

The selected two Alternative Food Markets should count with an established base of consumers, usually noticeable during a visit. For the case study selection, Yin (2009) suggests finding those with additional perspectives on the subject, also called "purposeful sampling" by Creswell (2013, p. 159). For this purpose, in addition to an Alternative Food Market that follows the organic

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<sup>18</sup> See section 2.1.2

<sup>19</sup> See James & Friel (2015), classification of subsystems in the urban food system.

agriculture profile of the REDAC Network, another was selected which has departed from organic certifications and embraced a more local approach with mixed production techniques. The main reason to do this, is to add a case study that adds an additional perspective to the research topic, as suggested by Yin (2009). By having an AFM that has taken a step beyond organic certifications, it is possible to understand better the evolution of Alternative Food Networks in Mexico, as a part of the dialectics between the conventional and the organic mentioned by authors like Goodman, et al. (2011).

The researcher aimed for a diverse, but purposeful sample of Alternative Food Markets in Mexico City. Both selected AFMs display a rich variety of food producers from different backgrounds and different areas of the city. It was estimated that each AFM should have around 30 food producers as an average size. Within each AFM, the participants were selected among food producers and organisers.

There is granularity in the sample within the AFMs, consisting of the organisers and food producers, divided in three categories: producers/farmers, processors/transformers and distributors/sellers. And they come from different points and backgrounds in the megalopolis.

The producers at AFMs that are of interest to this project are strongly characterised by a vision to produce and sell chemical-free, fresh food, situating them in the Commercial Alternative Food Subsystem of an urban area. A factor to consider is that AFMs have appeared and multiplied on a constant basis for the last 10 years in Mexico, but not all of them comply with the criteria proposed after Darolt, et al. (2016). Some producers are still in the stage of attending fairs and other events, still waiting for venues where they can promote their products. Over time some collective groups<sup>20</sup>, have evolved into itinerant organic venues or organised consumer groups and developed a personality of their own, adopting distinctive characteristics and principles. After completing the case study selection, the researcher considers that the two AFMs offer an ideal perspective of the development of Alternative Food Networks in Mexico.

#### *AFM 01*

The AFM01 operates in the central area of Mexico City, the AFM02 in the south. The geographical situation of AFM01 and AFM02 may allow them to meet consumers with different profiles, which may be interesting in noticing their feedback to the producers.

Founded in 2006 in the city of Metepec in the State of Mexico (Estado de México), a territory that surrounds Mexico City and that shares its dynamics, the organisation that found the AFM01

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<sup>20</sup> Spanish: “Colectivos urbanos”, similar to grassroots projects in urban areas.

has grown now to have 7 organic markets spread through the Megalopolis, two of them are in Mexico City.

Following the tradition of the pre-Columbian markets or “tianguis”, this AFM is focused on selling fresh products in open air venues. The founder of this AFM has been working for 10 years in the creation of venues for local producers to sell organic products. It also offers courses and workshops on participative certification, recycling and reuse of resources, construction of urban orchards and others related to organic production and agroecology. They also have a restaurant that offers dishes using most of the products sold at the AFM.

The vision of the AFM 01 is to link and reconcile the realities of the farm and the city.

At this AFM approximately 20 organic producers meet every Sunday, from around 9:30 am to 3:00 pm. The products range from fruits and vegetables, natural medicine, traditional processed foods from corn, meat, milk, eggs.

The findings on the AFM01 will be presented in Chapter 5.

#### *AFM 02*

This AFM has operated for 4 years. After working in other projects and building a network of producers, the organisers decided to create a venue to sell their products (Figure 8). Their vision is to change the way people eat and conceive the production of food. They intend to go beyond the concepts of “sustainable food” and “organic”. Products include fruits, vegetables, health related food products, alcoholic and non-alcoholic beverages, meat, bread, milk, egg, cleaning and environmental related products, not necessarily organic, but are produced taking care of the quality and health of the production processes.



*Figure 8. A Saturday morning in the AFM02*

The AFM 02 started to work on Saturdays from around 9:00am to 4:00pm. It opened in 2016 a second venue in the same area of Mexico City that takes place on Sundays, most of the producers attend both days and their number reached more than 30 at the time of the fieldwork.

## 3.2 Data Collection

In this section, I will present the stages of the fieldwork and the methods utilised to collect the qualitative data. The data sources used in this research are valid sources for a case study according to Yin (2009). In this project the researcher applied semi-structured interviews with follow-up questions, observations and participation in workshops.

### 3.2.1 Chronology

The fieldwork was divided in 3 stages, it began with the presentation of the project to the people of the Alternative Food Markets in March 2016. The first interviews took place in July and August of 2016, which allowed to uncover the Alternative Food Network character of the markets. The attendance to workshops and follow up interviews were conducted in the February-March 2018 and looked deeper into the agroecological practices of the participants. Conducting the data collection in these steps, allowed to study first the most visible features of the Alternative Food Markets, moving on to a more detailed investigation of their practices and role in the food system of Mexico City.

#### *Presentation of the project to the participants of the AFMs (April 2016).*

In April 2016, I presented the project to the AFMs and requested their participation. I contacted both markets per email prior to my visit and they allowed me to present my project during their next meetings. The AFM01 allotted me a space in their monthly meeting and the AFM02 set a brief time at the end of their day to present my project, for which I was thankful.

The people at both AFMs were enthusiastic about the project, because in March 2016 they just had a workshop organized by FAO Mexico where they shared ideas about the so-called “short circuits of commercialisation” (Spanish: “Circuitos Cortos de Comercialización”, or CCC). The results of that workshop were organised in a report and shared with the public; the success of this activity played a role in the organisation of the 2018 workshops.

Since the AFM01 works only on Sundays, they granted me permission to interview them between 1 and 3 PM, after the busiest hours of the market, when the vendors have less clients, at least in theory.

The AFM02, which worked only on Saturdays but had recently started a second venue to open on Sundays, granted me permission to interview them independently of the time and day. This allowed me to get to know practically every vendor there. Since vendors sometimes swap their



activities to work one day or the other at the two venues, it was useful to be able to attend both days.

During each of the AFM meetings the reception was warm, the vendors felt curious about the purpose and outcomes of the research and how it could help them in the future to be more informed about what they are doing right or wrong. Ideas for further research were also shared which were very helpful to design the interview questions.

*Semi-structured interviews and visits to production sites (July-August 2016):*

After the presentation of the project in March 2016 and its approval, I organised the semi-structured interviews to take place in the months of July and August 2016. Since the main work at the AFMs took place during the weekends, my working week had to be adapted to the fieldwork. It started on Wednesdays and Thursdays organising the data collected during the previous weekend and reflect on the methods and their outcomes, on Fridays I got ready and prepared the documentation to comply with the Ethics Approval<sup>21</sup>, Saturdays and Sundays I went to the AFMs, recorded observations, drafted a transcript. Mondays and Tuesdays were destined for resting.

Since the vendors sometimes have a restricted time available to participate, I soon had to adjust my work, and devised a quicker version of the interview to get most information in a short period of time if it was necessary. Fortunately, most of the participants were amazing and tried to their best to answer the questions while attending customers. The brief pauses that took place when a customer arrived, were also helpful to observe the interactions with the producers.

The schedule during the fieldwork was organised as follows for the Months of July and August 2016:

Saturdays from 9:30 AM to 3 PM at the AFM01.

Sundays from 9:30 AM to 12:30 PM at the AFM01 and from 1 PM to 3 PM at the AFM02.

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<sup>21</sup> This research has received the Ethical Approval from the University of Sheffield. An Ethics Approval procedure was submitted prior to the fieldwork as required by the University of Sheffield. It was agreed with the AFMs that the data from the studies would be anonymised, stored in a hard drive and used within the research according to the University guidelines, being destroyed after an agreed period of time. The interviewees were given an Information Sheet and a Form of Consent for each interview. After they read and agreed to the interview, I proceeded to record the audio and sometimes take pictures.

The AFMs start their activities between 9 and 10 AM. The first activity is for vendors to install their stalls, therefore I had to wait patiently for them to be ready to begin. Usually after the first interview, the customers started to arrive in numbers, and the interviewees were sometimes distracted but allowed me to make pauses while they attended their clients and we retake the interview.

Fortunately, on Sundays the traffic is usually low in Mexico City and I was able to drive from the AFM01 to the AFM02 in approximately half an hour. Public transportation was not a feasible option due to the lack of connectivity between the two AFMs. From my own experience I think owning a car may be an additional factor for potential consumers to be able to attend the AFMs, but this may also be true for attending supermarkets. Another situation is the existence of traffic restrictions for cars when air pollution reaches certain levels in Mexico City, which usually occurs during workdays. Restrictions became stricter in 2018, and sometimes I had to travel with Uber or find some carpooling. These subtle factors surrounding the research did not come to my mind in the first place, but at the time I am editing these paragraphs they seem valuable to take into consideration for future research, especially for budget planning.

#### *Follow-up interviews and workshops (February-March 2018):*

The audio recorder I used during the fieldwork of 2016 was ideal for situations where there was relatively bearable noise in the background, and I had the option to position the recorder near the interviewee. The interviews of 2018 took place in more dynamic conditions, where I had to wear the voice recorder hanging from my neck, there was more than one person talking at the same time and I was in the open. Some of the resulting recordings were hard to hear, making it relevant to consider for future occasions. The recordings that took place in classrooms were mostly clear, but in some workshops where several discussion tables were taking place in the same room, the audios suffered from a lot of background noise of different people talking at the same time. This probably highlights the limitations of the audio recording as a data collection technique.

The 2018 follow-up interviews allowed me to update the sections of the 2016 ones and find out more about the agroecological practices used by the participants. They were also helpful to find connections between their projects and activities as producers and the food system of Mexico City. These interviews generally took longer than the ones of 2016, and I focused on those participants that were flagships of the markets.

#### *Site visits*

In 2016, I had the opportunity to perform four site visits. The first one took place in the ranch of Leonardo, where I also visited the mushroom farm of Mr. Jacinto. In that occasion, I also visited

the Maize Fair of Amealco, a greenhouse for tomato and flowers exports and a talked to a maize farmer and a cabbage producer. For the second site visit, I took part of an excursion led by the AFM02 to the avocado plantation of Rubén. The third site visit took place in a tomato greenhouse in Tlaxcala State, well known for their alternative tianguis. Of these site visits, three audio recordings were used for the thesis, observations were made for all visits.

During the visit of 2018, the site visits totalled 14. They comprised three producers of the Xochimilco chinampas (dairy and vegetables); an urban orchard and a dairy farm in Iztapalapa, Mexico City; an artisanal market in Metepec, State of Mexico; a traditional tianguis, two public markets, two cheese and one mezcal producer in Oaxaca; finally, an organic market and an in-house orchard in San Miguel de Allende, Guanajuato. Six audio recordings were used for the thesis and observations were made for all visits.

### 3.2.2 Instrument: Semi-structured interviews

A series of semi-structured interviews were conducted in both markets. The semi-structured interviews of this project were created based on the steps suggested by Creswell (2013).

The interviews were preceded by a description of the project and giving the interviewees an information sheet and a form of consent to conduct the research (Table 3).

Step (Creswell, 2013)	2016
Decide on the research questions	Interview questions have been devised to gather information in 4 areas, as an exploratory study.
<del>Identify interviewees</del>	Food producers at two AFMs, approximately 30 per market.  <del>Also, AFM organisers.</del>
Determine the type of the interview	<del>Semi-structured.</del>
<del>Use adequate recording procedures</del>	Audio recording. The researcher purchased an audio recorder that reduces noise and with better battery life than smartphones.
Design and use an interview protocol	<del>Not used until transcription.</del>
Refine the interview questions through pilot testing	The initial version of the interview was improved after the first weekend of fieldwork.
Determine the place for conducting the interview	Interviews took place at the AFMs and at some production sites. Not so quiet at busy hours when most customers attend.
Obtain a complete consent form	The consent forms were read and given to all the participants moments before the interview.
Use good interview procedures	Most recommendations (Creswell,2013) were followed and interviews were conducted in the best possible way (stay to the questions, complete in time, be respectful and courteous, etc.)

Table 3. Interview steps. Adapted from Creswell (2013)

Semi-structured interviews are not entirely standardised, they cover according to Saunders (2015) a list of themes and some key questions. For Rubin (2012), semi-structured interviews

are “core forms” of in-depth qualitative interviews, usually take place as an extended scheduled conversation on a specific topic. The researcher arrived at the markets with a specific set of questions and the fieldwork opened the possibility for follow up questions.

#### *2016 Interview structure*

The 2016 interview consisted of four main sections, described below:

1. The Producer. Name of the producer and project, later anonymised<sup>22</sup>; number of people participating in the project; learning process of the production techniques; years spent producing and participating in the local market; places where the products are sold; start at the local market; things learned during the time participating in the local market; challenges in the time participating in the local market.
2. The site of production: Locality of production; estimated time or distance to arrive at the local market; type of transportation; availability of resources at the place of production.
3. Products and production: Offered products at the local market; most popular product(s); positive characteristics of the offered products; production planning and determination of the amount to be sold in a day at a local market; estimated time to produce the amount of product brought to the local market; destination of product not sold at the local market; price of the product compared to products from conventional sources; is the income enough to survive; climate change and public policy effects on the production.
4. Other questions: Communication or cooperation with other producers at local, national or international level; collaboration with universities or schools; feedback and relationships with their customers; key information about their projects; presence in social media.

The first round totalled 35 interviews in two AFMs of Mexico City with producers and organizers<sup>23</sup>. The interviews were conducted in July-August 2016 during the weekends, when the AFMs work. Each interview was planned to last around 30 minutes, but some were ready in a shorter time, depending on the availability of the interviewee.

#### *2018 Follow-up interviews*

The follow-up interviews conducted in 2018<sup>24</sup> reviewed the first four sections of 2016 to see if there had been any changes. Additionally, two more sections were included:

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<sup>22</sup> Participants’ names were changed to fulfil the agreement of anonymisation and allow a fluent narrative in the empirical chapters.

<sup>23</sup> Interview codes Y01 to Y35. See Appendix.

<sup>24</sup> Interview codes Y36 to Y46. See Appendix.

1. Welfare and livelihood. Application for government incentives to produce; livelihood improvements after taking part in the AFMs.
2. Presence of agroecological practices: Implementation of agroecological, organic or other practices for production and distribution; biodiversity conservation and production; cooperation and sharing of knowledge; use of resources and recycling; social and human values at AFMs; culture and tradition around food.

### 3.2.3 Instrument: Workshops

In addition to the follow-up interviews, I had the opportunity to attend to a series of stakeholder workshops conducted in February 2018, as a part of the UK-Mexico Visiting Chair<sup>25</sup>. There was an academic from the University of Sheffield that was a visitor, the event was hosted by academics from UAEMEX, UNAM and UAM in Mexico. The workshops were held with academics, organisers, producers, members of NGOs and related stakeholders in order to discuss the role of organic and local food production in Mexico City, particularly on the challenges they face like predatory practices, urbanization and climate change. The attendants were asked to discuss the role of agroecology in their activities. Three workshops took place, the main one at UNAM was held with several stakeholders and two others with academics at UAEMEX and UAM.

#### *Background*

The information collected with the first semi-structured interviews in 2016 was reinforced with follow-up interviews and assessed with attendance to workshops. In 2018 I had the opportunity to co-organise the application to the UK-Mexico Visiting Chair and attended a series of workshops related to agroecology and food production. These events were hosted by major education institutions of Mexico: UAEMEX (“Universidad Autónoma del Estado de México) (Figure 9), UNAM (Universidad Nacional Autónoma de México) and UAM (“Universided Autónoma Metropolitana”)<sup>26</sup>.

#### *Purpose*

The purpose of the workshops was to promote interaction and exchange of thoughts between the actors of the Mexico City food system, understand the interactions among them and inquire on their agroecological practices. Additionally, through the interaction of actors it was possible to appreciate how the actors of the alternative food subsystem of Mexico City are coping with challenges. The contributions of the participants strengthened the information gathered during the interviews and helped to identify their strengths and areas of opportunity, these aspects

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<sup>25</sup> This is an application-based event aimed at creating collaboration among academic institutions of both countries.

<sup>26</sup> The event is managed within International Partnerships / Global Engagement at the University of Sheffield.

were useful to work on the Practices and Principles and elucidate the Potential Contributions to Sustainability of the AFMs. The workshops were also helpful to code the findings and create a set of elements for the analytical framework of the thesis.

#### *Workshops organisation*

The workshops were mainly organised by the host academics, they were amazingly kind to allow me to be part of the organisation and contribute to the activities. The workshop at UAEMEX (Figure 9 ), involved academics only, the one at UAM was conducted with academics and some postgrad students. The workshop at UNAM (Figure 10), included a variety of actors of the food system of Mexico, ranging from activists, FAO representatives, NGO members, producers, AFM organisers, cooperative members, public institution representatives and urban food collectives.

At UAEMEX the academic hosts allowed me to facilitate the workshop and lead the activity. The workshop at UAM was completely organised by the hosting academics and comprised a series of case studies around food production, presented by other academics and postgrad students. For the workshop at UNAM I played a role in the facilitation, moving from table to table to encourage the attendants to share their thoughts, keeping track of time and activities. The main organisation was led by the host academic and his group of students. In words of an activist, the final workshop would not have been possible without having the reputation of the UNAM to create trust among attendants, which allowed for a greater attendance. In the moment, we realised we needed two classrooms to allocate all the people arriving. The participants left very happy and expressed their will to keep organising these workshops.



*Figure 9. Workshop with academics of the UAEMEX*



*Figure 10. Workshop at UNAM*

#### 3.2.4 Instrument: Observations

The observations for this research took place in 2016 and 2018 and accompanied the other data collection activities. They started in 2016 when I conducted the first interviews and continued until 2018 for the second stage of activities.

For Creswell (2013), observation is key to collect qualitative data, it implies the use of the senses, focusing in the research purpose and questions. For Angrosino (2007), it involves using the five senses on the field to note a phenomenon and record it, sometimes also an instrument.

Being the researcher involved in the process of observation, there are four types of engagement according to Creswell (2013):

- Complete participant
- Participant as observer
- Nonparticipant/observer as participant
- Complete observer

In this project, the researcher was engaged with the people at the Alternative Farmers' Markets, therefore assuming the role of a "complete participant". For Creswell (2013), this role is interchangeable during the process of observation, at most, the researcher will become at visits to the sites (learning from the harvesting, etc.), as a "participant as observer", but in very few occasions.

The general guidelines from Creswell (2013), to conduct observation were considered:



- Site selection
- Identification of who or what to observe
- Determine the role as an observer
- Design an observational protocol
- Record important aspects and elaborate descriptions
- Be passive and friendly, start slowly with the interactions
- Slowly withdraw after observing
- The interview audio recordings were coded using the prefix “Y” followed by a number. The order follows the date of the interview (see Appendix). Each interview has a transcript. Audio recordings from other activities do not have a code and only excerpts were used when necessary.
- The interview prefixes are not used in the empirical chapters to refer to the interviewees, this was done to give flow to the narratives of the participants. Instead, an alias was given to the participants following the anonymisation agreement expressed in the project presentation, information sheet and permission to record the interview.
- Prepare full notes immediately after the observation

The protocol of observation included taking personal voice notes in the field and writing an observational protocol adapted from Creswell (2013) (Table 4), which varied depending on the difficulty to take written notes. As I mentioned earlier in this chapter, I found the voice notes more versatile.

<b>Date:</b>	<b>Length of the activity:</b>
Time:	
Place:	
<b>DESCRIPTIVE NOTES</b>	<b>REFLECTIVE NOTES</b>
(Portrait of informant, physical setting, event description)	(Personal reflections, insight, ideas, confusion, hunches, initial interpretation)

Table 4. Sample observational protocol. From Creswell (2013)

### 3.2.5 Dataset summary

The thesis dataset comprises 35 audio recordings and transcripts for the interviews of 2016; 10 audio recordings and transcripts for the follow-up interviews of 2018; 3 workshops attended; 3 audio recordings from 4 site visits in 2016; 6 audio recordings from 14 site visits in 2018; and a notebook and audio notes for observations (Table 5).

Activity	Number
Semi-structured interviews (2016)	35
Follow-up interviews (2018)	10
Workshops attended	3 (5 audio recordings)
Site visits (2016)	4 (3 audio recordings)
Site visits (2018)	14 (6 audio recordings)
Observations	One notebook and several audio notes

Table 5. Dataset

### 3.3 Data Analysis

The responses to semi-structured interviews were interpreted qualitatively. The resulting themes and categories helped to produce the EPPC analytical framework<sup>27</sup>.

#### *Initial coding*

The interview audio recordings were coded using the prefix “Y” followed by a number. The order follows the date of the interview (see Appendix) and goes from 01 to 46. For each interview a transcript was made. Audio recordings from other activities do not have a “Y” prefix and only excerpts were used when necessary.

The interview prefixes were not used in the empirical chapters to refer to the interviewees, this was decided to give flow to the narratives of the participants. Instead, an alias was given to the participants following the anonymisation agreement expressed in the project presentation, information sheet and permission to record the interview<sup>28</sup>. It was decided to allow participants speak in the empirical chapters to provide a glimpse into their practices. The granularity of practices found in the transcripts added up to more general arguments. There was material that could not be allocated within the analytical framework but can be useful to conduct further research.

The interview transcripts were created using the VLC media player, a free software that allows to adjust the audio reproduction speed. It was more comfortable than relying on the audio recorder, which lacks this option, although I used it sometimes too to go back to the

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<sup>27</sup> Introduced in section 2.4. It is further explained in section 3.3.2.

<sup>28</sup> For a table with the aliases, see the Appendix section.

conversations in the absence of a computer. I would like to mention that Word offered at some point in 2019 a dictation option, that I tried briefly for the last stages of writing and could be useful for transcription.

The transcription and coding were done in Spanish, as my native language I opted for this to optimise the activities and have a clearer analysis. The translation took place later and I decided to move from an “ad verbatim” transcript quotes to ones that could portray in the best possible way the answers of the participants. It is inevitable to lose part of the meanings during translation and it is still a challenge to bring all the details and emotions into a second language.

### 3.3.1 Evernote: a helpful ally while on the road

While NVivo is probably the logical choice for qualitative data analysis, it poses basic limitations to work at different devices. I designed a modest alternative using the paid version of Evernote, a software that can work across computers and mobile devices. This option requires patience and several hours of work but takes advantage of the tag-search nature of Evernote. By no means is as powerful as NVivo, I would consider it a light version of it for the basic purposes of coding. This alternative could work for people who need access to their files from more than one device, do not have a secure NVivo license over the years and may want to retake their work at some point in the future and people who prefer to have their data stored in the cloud. The license for Evernote Premium would be easier to afford for one person than an NVivo one and it can be run on a device that does not have high hardware specifications.

The downsides to code in Evernote are the inherent limitations of the software, which is more a “save it all” for everyday internet activities. There are occasional crashes that can lose the contents and not synchronising the information. The Premium version is needed and often an internet connection. Several hours of work are also needed to manually add codes to every document and this cannot be done to audios or videos. Additionally, the data is stored in the cloud and it implies that all the work must be done there. Evernote has guaranteed that the data cannot be accessed by third parties, but as in any cloud-based software, privacy concerns should be taken into account.

Transcripts were prepared for the initial and follow-up interviews, the language of choice to conduct the coding and analysis was Spanish with a later translation into English. The transcripts of the audios and observations were classified as interview, follow-up interview, workshop or site visit.

To code the data, the premium version was preferred since it allows to perform searches within Office documents, PDFs and images. A series of tags were created for each category, as shown

in the images located in the Appendix section. The tags were codes that produced categories and then themes. Four themes were chosen as the main ones to create the analytical framework of the thesis.

### 3.3.2 Thematic Analysis

Thematic Analysis is compatible with both objectivist and subjectivist philosophical positions, it looks for themes or patterns occurring in a data sets, consisting of interviews, observations, documents or websites, aiming for further analysis and leading to rich descriptions, explanations and theorising (Saunders, 2015). It is considered by Braun and Clarke (2006) as a “foundational method for qualitative analysis”.

Transcripts of the interviews were analysed thematically to identify the distinctive practices and challenges taking place at AFM’s leading to the explanation of each research question. Each AFM was a unit of analysis and was considered as a case study.

Using the information from the coded interviews, a case study was written for each AFM, which is considered the unit of analysis, the case studies are embedded or nested (Yin, 2009), in the context of Mexico City. The case studies were structured and presented using the EPPC analytical framework of the thesis.

The analysis was thematic and followed the steps provided by Saunders (2015):

1. Becoming familiar with the data
2. Coding the data
3. Searching for themes and recognising relationships
4. Refining themes and testing propositions

These steps are seen by Saldaña (2016) as a real to abstract / particular to general process (Figure 11).

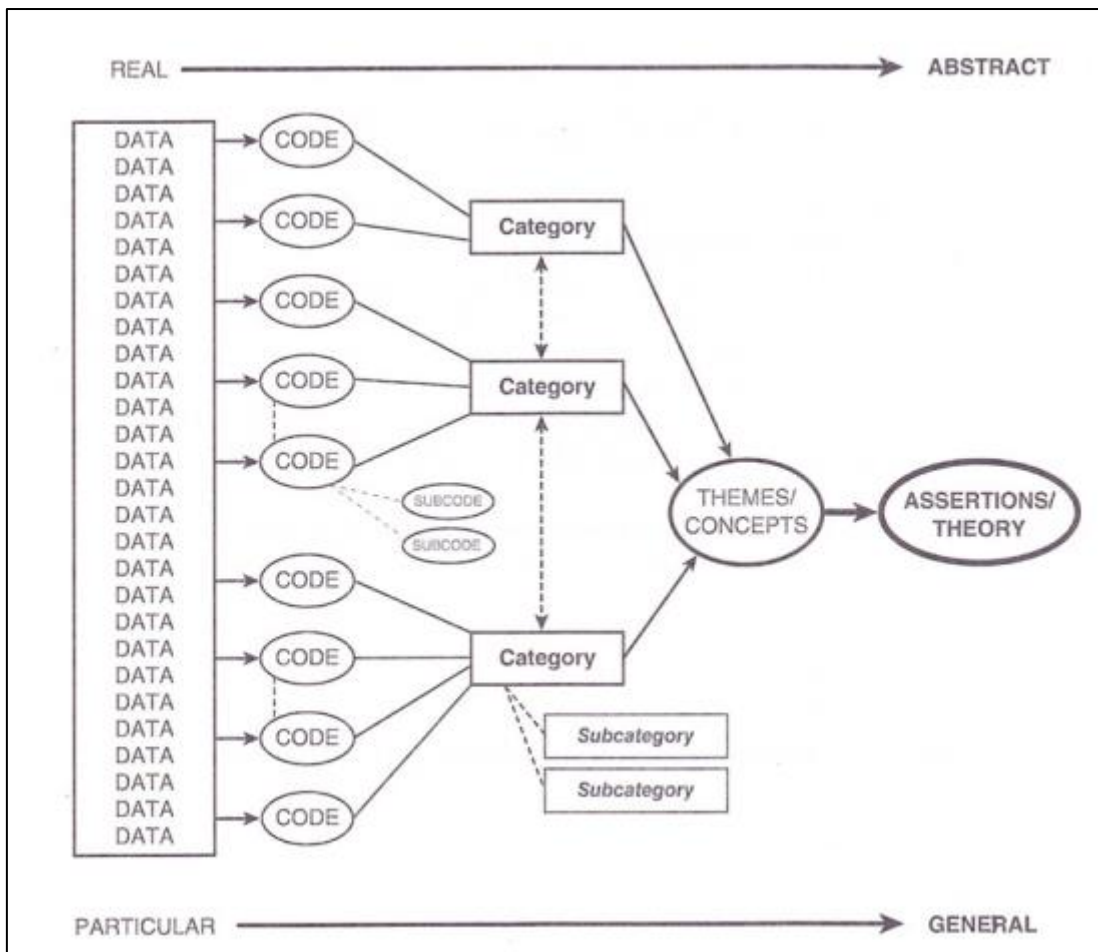


Figure 11. Codes-to-theory model for qualitative inquiry (Saldaña, 2016)

#### *Becoming familiar with the data*

Transcript production is the first step towards becoming familiar with the collected data, the process of immersion lasts as long as the research project, data reading and re-reading will allow the identification of recurring themes and patterns, developing familiarity is critical to engage in the other steps (Saunders, 2015).

The semi-structured interviews have been transcribed using the VLC player at slow speed, the time necessary to transcribe the interviews ranges from seven to ten minutes per minute of recorded voice. Becoming familiar with the transcripts will be done first without any particular software.

#### *Coding the data*

Coding means to categorise similar meanings data, it is necessary to label each unit of data within the transcripts with “a code that symbolises or summarises that extract’s meaning”; the objective being to “make each piece of data in which you are interested accessible for further analysis; the approach to data is guided by the research questions and objectives (Saunders, 2015, p. 580).

The process is described by Saunders as follows: “a code is a single word or a short phrase, which may also be abbreviated in use. A coded extract of data is referred to as a unit of data. A unit of data may be a number of words, a line of a transcript, a sentence, a number of sentences, a complete paragraph, other chunk of textual data, or visual image that is summed up by a particular code. The exact size of a unit of data will be determined by its meaning.” (Saunders, 2015, p. 580).

Saunders (2015) suggests to code all of the data if the research approach is inductive, looking for finely detailed meanings, coding smaller segments or units of data; any unit may be coded with several different codes “creating a web of connections to aid your analysis” (Saunders, 2015, p. 582). Additionally, Saldaña (2016, p.20), recommends Layder’s (1998) pre-coding, this includes “circling, highlighting, bolding, underlining, or colouring rich or significant participant quotes or passages...”.

There are three main sources of codes (Saunders, 2015):

- “In vivo” codes, based on actual terms used by the participants, recorded in the data.
- Labels developed in the best way to describe a unit of data to be coded.
- “A priori” codes, derived from terms used in existing theory and literature.

The data provided by the AFM participants during the interviews served to identify AFN distinctive features and practices that might be related to the sustainability of the food system.

The transcripts of each producer or grouped producers under one project will be treated as a Source. The transcripts will be thematically coded, and each trait will be identified as a node. The hierarchy of nodes will be decided according to the frequency in the transcripts, matching/relevance in the literature and the original structure of the interview.

#### *Searching for themes and recognising relationships*

After coding the entire data set, the lists of codes will be available to make sense of and draw meaning from the data (Saunders, 2015). Searching for themes means looking for patterns and relationships in the list of codes that are related to the research questions. A theme is “a broad category incorporating several codes that appear to be related to one another and which indicates an idea that is important to your research question. A theme may also be a single code which indicates an idea that assumes general importance to your research question and is therefore elevated to become a theme” (Saunders, 2016, p. 584)

The analysis of occurrence of codes and the relationships among them will allow the grouping into categories and themes, producing the analytical framework of the thesis.

#### *Refining themes and testing propositions*

To pursue an analysis, the themes “need to be part of a coherent set so that they provide you with a well-structured analytical framework”, the theme development implies the reorganisation of the coded data and it leads to its refinement, creating testable propositions; these should be tested to confirm it is an actual relationship; in the process, alternative explanations may exist (Saunders, 2016, p. 585).

The propositions to be tested are related to the research questions and will be unfolded in the empirical chapters.

#### *EPPC Analytical Framework*

After coding the interview transcripts and reviewing the AFN literature, an analytical framework comprising three themes is proposed (Figure 12). The data organised and discussed around it will inform the research questions, the thesis contributions to the AFN literature and is the backbone to organise the thesis.

The interviews of 2016 had sections to inquire into the producers’ profile, products and production, as well as cooperation with other actors; the 2018 follow-up interviews and notes from the workshops produced a more detailed insight on how they use agroecology and overcome certain challenges<sup>29</sup>. The codes created in each section of the interview transcripts were organised into categories, then themes, following the guidelines already referred to in this chapter by Saldaña (2016), Creswell (2013) and Saunders (2016). By looking at the data coding and the AFN literature, the themes that contribute better to the AFN body of knowledge were selected. The discussion around these themes lead to the AFN arguments that this thesis can advance.

The themes of the analytical framework are:

1. Emergence. This theme allows to understand the paths that organisers and producers followed to create AFN sites of agroecological practice, referred in the thesis as Alternative Food Markets. This theme is necessary to put the emergence of the Mexican AFNs in their own context, since they emerged after the food quality turn in developed countries. Just before they emerged, Mexico became a producer of organic food for

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<sup>29</sup> See section 3.2 for details on the interviews.

exports. Besides, not every AFN started from zero, they are usually the outcome of previous food movements in the country.

2. Practices and Principles, of hybrid-agroecological nature, exercised by the participants. This theme allows to understand the coincidences and differences between the two case studies, the agroecological nature of the practices and principles of Mexican producers and their vision towards food production and distribution. Also, allows to see the dialogue with the industrialised and civic food subsystems in Mexico City.
3. Potential contributions to the sustainability of the food system. After the relation found in the literature between AFN practices and principles, and sustainability, the thesis intends to uncover a series of features that amid to be tested, can be contributions to the sustainability of the food system.

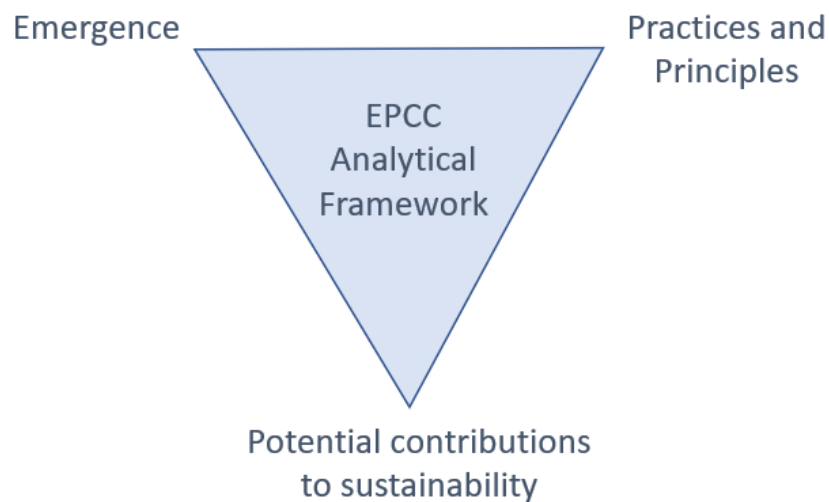


Figure 12. EPPC Analytical Framework.

The EPPC analytical framework (Emergence, Practices and principles, potential Contributions to the sustainability of the food system), guides the reader through the thesis chapters and the information within them: literature review, context, empirical chapters and discussion. The EPPC Analytical Framework also allows to organise the answers to the research questions and the thesis contributions to knowledge.

#### *Overcoming data quality issues*

Drawing from Saunders (2016), the main quality issues with semi-structured interviews can be seen in Table 6.

They are commented in the same table in the context of this research project.



<u>Data Quality Issues</u>	<u>Comment</u>
<u>Reliability / dependability</u>	The phenomenon to be studied is dynamic and subject to change. The semi-structured interviews intend to capture the capabilities at the time they were collected. Such capabilities are subject to change and evolve, making them suitable for further research.
<u>Forms of Bias</u>	The interview process will adhere to good interview procedures (Creswell, 2013).
<u>Cultural Differences</u>	The food producers and the researcher share the same nationality and live in the same city, it is expected this issue to be minimal.
<u>Generalisability / Transferability</u>	The sample will attempt to include all the food producers that attend to two AFMs.
<u>Validity / Credibility</u>	Questions will be as clear as possible and participants will be able to check the data.

Table 6. Overcoming data quality issues. From Saunders (2016)

### 3.4 Reflections on the Research Process

#### 3.4.1 Methodological limitations

An approach that stresses an inductive approach in the analysis of coded interview data, is inevitably partial and limited to the context of the case study. The strength of these case studies lies in the richness of the answers provided in such context. There will be a limitation in the extent the findings of this project can be applied to other locations, however, they will be useful for food producers and people willing to be part of the alternative food networks.

Using case studies will present a problem to generalise results, on the other hand it is an important step in the understanding of Alternative Food Networks in one of the biggest metropolises of the world. Most previous studies have been carried out in the Global North, despite the fact that in 1995 there were 19 farmers in the developing countries for one in the developed world (FAO, 1995).

Due to the political background surrounding agrarian topics in Mexico and general insecurity, the researcher wonders if due to this some producers would be somehow reluctant to

participate in the interviews or may provide biased information. Some people are not accustomed to being asked for an interview and then sign a printed authorisation form. As an anecdote, there was one person who was reluctant to participate because not having learned how to write. Verbal agreements, diaries/notes and observations were also important to collect the data.

### 3.4.2 Reflexivity

Reflexivity is always present in the research of socio-ecological systems. To some extent it is possible that the researcher wishes to find a correlation between the food producers and the urban food system due to the positive implications it may have on the population of his hometown. The proposed solution consists of keeping a well-managed record of interview transcripts.

Attendance to Mexican public markets and to AFMs since 2010 proved to be useful to conduct the observations and interviews of this study. Nevertheless, my position as a PhD researcher has not been of an insider or that of an action researcher.

My positionality influences this study to some extent, because of my support to food movements, my habits as a local food enthusiast and consumer. I care about how the farmers in the Mexican urban and peri-urban areas are dealing with changes and challenges. I have a deep respect for their work, making the researcher sensitive to the opinions and concerns they express, but foremost, respect to the research I conducted.

### Conclusions

This chapter presented the research methodology, it showed that a qualitative approach consisting of two case studies embedded in the same context posed the best alternative to answer the research questions and provide a holistic perspective of the selected Alternative Food Markets. It also showed how the analytical framework is related to the thematic analysis of the collected data.

The data collection comprised semi-structured interviews to gain an understanding of the visions and practices at the AFMs and were informed in a second stage of research with workshops and follow-up interviews. Observations were kept along the way as well. The data was coded using Evernote as an alternative to NVivo and the transcripts were elaborated for each interview, first in Spanish and later translated into English.

The following chapter puts the Alternative Food Networks in the Mexican context, it is a step before presenting the empirical chapters.

## Chapter 4. Background and context of the Alternative Food Markets in Mexico City

### Introduction

After presenting the methodology in Chapter 3, this chapter positions the research in the context of Mexico and constitutes a timeline of events that led to the emergence of the two case studies<sup>30</sup>.

Section 4.1 provides a brief historical account on how the Mesoamerican agriculture of Mexico has met different paradigms since the 16<sup>th</sup> century.

Section 4.2 continues with the timeline of events, focusing on those after the “quality turn”, which promoted organic agriculture in Mexico.

Section 4.3 presents the emergence, practices and principles of the REDAC Network<sup>31</sup>, the first national association to bring together small-scale markets with an alternative view around food production and distribution. This section concludes adding the two AFMs studied to the timeline.

By looking at the historical changes in food production in Mexico<sup>32</sup>, it can be seen that the resulting food system is a mosaic of conventional and alternative styles of production and distribution, this has left small-scale, family-based producers in a situation of disadvantage not fully addressed by the adopted industrialised agricultural paradigm. Data from government reports shows that small producers do not have the same access to benefits than conventionalized farmers, despite contributing to most of the food production in Mexico.

In order to take their products closer to consumers and procure themselves a livelihood, these producers have created and joined several alternatives. After the “quality turn” in northern countries and the entrance of Mexico in the production of organic food for exports, those producers whose fields had not been in touch with chemicals gained visibility and importance.

As the organic food production scaled-up and conventionalised to meet the exports, it became clear that small-scale, family-based producers could not meet the production volumes. Organic certifications widened the gap more among producers<sup>33</sup> and created a niche for new

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<sup>30</sup> The timeline includes the two types of AFMs studied, their specific evolution is presented in sections 5.1 and 6.1 to be discussed in section 7.1.

<sup>31</sup> Mexican Network of Organic Markets.

<sup>32</sup> Food consumption also plays a role, but it was not within the scope of this research project. As an indication of it at AFMs, it is considered that the practices and principles observed during the fieldwork are influenced by the consumers.

<sup>33</sup> The gap widened even more with the appearance of the Organic Food Production Law in 2006, which increased the requirements to certify organic products.

alternatives. A new niche emerged and was filled by localized movements of small producers alongside the country who became part of the REDAC Network in 2003, aiming to make organic food products available to the Mexicans, not just for exports. The REDAC Network became a sign of trust in the country, but eventually the markets that constituted it followed their own paths<sup>34</sup>.

#### 4.1 Historic events leading to the emergence of Alternative Food Markets in Mexico City

In this section, I will present the historical context that allows to situate the emergence of the Alternative Food Markets in Mexico City, as put by Goodman, et al. (2011), Alternative Food Networks are not completely understood without the visions and ideas that made them be. The context is drawn from historical accounts of agriculture in Mexico, from pre-Columbian times to present day.

To accomplish this, I will refer mainly to the historical account of agriculture in Mexico by Prof. Angus Wright (Wright, 1990), collected in his book about the Mixtec people of Oaxaca and their struggles working in the agricultural fields of the US. Even if the book is focused on the Mixtec people, the account of historical facts is common to most people of Mexico from the pre-Columbian time to the Spanish Conquest and the armed conflicts of the 19<sup>th</sup> and 20<sup>th</sup> century. The reason to use this approach is to present the key historical drivers that can be linked to current alternative food movements in Mexico, focusing on the people who have endured the introduction of new plant and animal species as well as the techniques to make use of them in a large commercial scale. The consequence of strong historical shifts in agriculture led to political reforms that did not benefit small producers and landholders, relegating them.

In the second section, I will present data government related to the presence and inclusion of small producers in the Mexican agriculture. The main idea extracted from this data is that there is a prevalence of the large landholders that keeps small producers relegated despite the existence of public and private financing.

The footprint of small-scale producers and peasants can be seen throughout history, shaping in recent times the major conventional but also organic food production hubs in the north and Pacific coast of Mexico. Their situation is put in context of the most recent effort to mechanize food production in Mexico, known as the Green Revolution. The series of historical events shed light in what Wright calls “cultural identity and coherence”, that promoted the emergence of a National Network of Organic Markets.

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<sup>34</sup> The REDAC Network disappeared with not apparent reason at some point in 2018.

#### 4.1.1 From Mesoamerican times to present day: A brief historic account of agriculture in Mexico

In his book “The death of Ramón González: The Modern Agricultural Dilemma”, Professor Angus Wright (1990) provides a comprehensive narrative of the historical struggles faced by the Mixtec people, but can be extended to understand similar trajectories of other people living in Mesoamerica. Considering key events in the conformation of the region’s civilizations, then the Spanish Conquest and the following years of the formation of Mexico as a country, his account of historical events can be used for the purposes of my research project to understand how the AFMs, their visions and imaginaries, came to be. A deeper historical account of the situation of each civilization of Mesoamerica and their contributions to agriculture and food movements is left as a possibility for future research.

To begin with, there is proof of the stratification of the societies in the civilizations of Mesoamerica before the Spanish Conquest, which implied a degree of control by the nobility of the best agricultural lands. Wright refers to it as a “serfdom” and the people in this situation worked the best lands for the nobles and others not so good for their needs:

*“...those excluded from the nobility were people who worked directly for the noble families under a relationship that may have roughly resembled European serfdom, with their labour available to the nobility in corvées, or obligated labour. The rest of the commoners made their living by farming the steep slopes of hills and mountains.”*  
(Wright, 1990, p. 135)

Under this stratified societies, some innovations in agricultural systems were created and still are put into practice today, like the “lama y bordo” of the Mixtecas, the “milpa” of the Pacific coast of Mesoamerica and the “chinampa” in the lake system that is now Mexico City. These systems have been practiced for centuries. In the case of “lama y bordo”, a system that takes advantage of the hillsides, workers had to make the best use of the slopes to grow their own food, in contrast, the best lands in the valleys were worked for the nobility. This system for Wright, “was founded on the maintenance and effective control over deep social divisions in the society and on the tight control of gangs of laborers under the supervision of ancient Mixtec agricultural engineers”.

Even if those stratified systems made sense within the cosmovision of the Mesoamerican people and not to the soon to arrive European Conquistadores, their arrival did not mean an improvement in the conditions of the agricultural labourers, but torn asunder the existing

systems and according to Wright, set a series of “tragedies” in motion for those peoples, that can be tracked to present day in the conventionalized fields of Northern Mexico and the US.

So, when alternative food movements of Mexico try to resemble the old Mesoamerican food and customs, they do it overlooking at the pre-Columbian struggles of the farmers and focus in the nobility that thanks to the stratified societies could develop other activities like arts, mathematics and astronomy. This leads to a “selected” nostalgia emerging from the Mesoamerican cultures and not necessarily focused on the development of agriculture in the region.

Then, why is the folklore of the Mesoamerican civilizations taken as inspiration for some characteristics of the AFMs and other food movements? The answer for Wright lies in what he calls “cultural identity and coherence”, again using as an example the case of the modern Mixtec people, he states that:

*“The Mixtecs are sharply aware of their distinction as one of the relatively few indigenous American people to preserve their language, much of their culture, and a degree of control over an extensive homeland in the face of European conquest and nearly five centuries of domination. This is no small achievement. If it can be said that this is partly due to the forbidding character of their territory and the relative lack of interest Europeans have had in exploiting it, it is also true that the Mixtecs can and do take pride in preserving their way of life in such a difficult arid mountain environment under heavy social pressure.”* (Wright, 1990, p. 122)

Being more specific, it is in the character of the people that the strongest traits of the Mesoamericans survive and create a sense of nostalgia in contemporary people looking for an imaginary for a more Earth-friendly way of life. In the end, from the words of Wright, it seems it is more about resilience in the character of the people, a community or culture:

*“The qualities of toughness, perseverance, and community solidarity that have held together a culture under extreme stress are also, perhaps, the qualities that may allow the Mixtecs to shape a more hopeful future than otherwise could be imagined.”* (Wright, 1990, p. 135)

In the long-term, what is evoked from those ancient cultures is a series of connections among the communities and civilizations, with the most dominant traits surviving the test of time. For Wright, it was *“...a strong cultural identity and coherence may have had sustaining value for commoners as wells as nobility.”* (Wright, 1990, p. 135).

The Spanish Conquest had a deep impact in the landscape of the Mesoamerican cultures, armed conflicts, took place simultaneously to the introduction of animal species, plants and crops from other parts of the world, mostly with a long-range trade perspective. Disease and population displacements left a demographic deficit in Mexico that could not recover until the 1900s. In terms of soil and agriculture, the lack of available labour left many areas unprotected and left for degradation, this phenomenon for Wright, was accelerated by “domesticated grazing animals and the plow” (Wright, 1990, p. 128).

Another trait that has probably defined the diet of Mexico’s peasants is the early divisions and restrictions to raise or grow certain animal and plant species. In the empirical chapters, I will present some results that indicate that the diets at farm level, mostly outside the big cities, still avoid some products that are linked to the colonial past, despite sometimes participating in their production. Wright recollects that there was a prohibition to prevent indigenous people to raise “major cattle” (Spanish: “ganado mayor”, comprising cows, horses and mules), so the Spanish landowners did not have competition. It is an interesting fact because therefore, “minor cattle” (Spanish: “ganado menor”, comprising sheep and goats), was left free to graze and damage a lot of vegetation. For Wright, the impact of these practices consisted in that “far fewer people were using a much more damaging set of technologies with no limiting social controls” (Wright, 1990, p. 128).

Once the indigenous communities started to experience the ups and downs of the long-range capitalist-driven activities organized by the Spanish landowners and investors, there was a need to find reliable sources of income that could be adapted to the ecological conditions of their areas and less subject to the whims of a more global market. Wright (1990), mentions the success of “cottage industry techniques” as “a kind of backyard agriculture and industry”, which can be understood as the precursor of several food commodity production techniques that are seen in the AFMs today as a part of the nostalgia evoked and happening against the presence of mass-produced conventional supermarket products. There may be also a connection of pride as with the Mesoamerican peoples who created some independence from the control of the Spanish by working in homes with the labour of family or community members. In the case of the cochineal dye production in the Mixteca region, Wright traces a link between old and modern times:

*“Cochineal production was similar to the idea of small-scale rural industrial development using slack-time peasant labour that is so often favoured by Mexican federal bureaucrats looking for ways to stabilize or revitalize the modern Mixteca.”* (Wright, 1990, p. 129)

Since colonial times, there has been an interesting synergy between capitalist agriculture and craftsmanship, according to Wright (1990), the Mixtecs and the production of silk in what is now the State of Oaxaca were no exemption:

*“The Spanish interest in long-range trade based on capitalist agriculture merged with the Mixtec penchant for skilled craftsmanship.”* (Wright, 1990, p. 129)

This trait may seem familiar when I explain in a further section the origins of organic food production in Mexico in the last decades of the 20<sup>th</sup> century.

During the 17<sup>th</sup> century, a lot of resources of the New Spain were put into motion to feed the mining industry in the centre-north States of what is now Mexico, having an impact on agriculture, according to Wright:

*“Peasants were uprooted and shipped to the mines, fields were turned to raising mules or food for mules, forests were cut for mining timbers, and a large share of food production was devoted to assuring the miners could continue with their labours”.* (Wright, 1990, p. 130)

This meant a number of indirect effects on the agricultural methods that existed for centuries before the Spanish Conquest, potentially starting a sense of nostalgia and pride for the pre-Columbian methods, because it was not only a shift in the production paradigm, but the social impact it had in the local communities which could be seen in recent years with migration movements within Mexico and to other countries, mainly the US. It also marked the beginning of a lower interest in investing in cultivars outside of the products that meant profit at large-scale.

Larger distances, poor roads and sometimes difficult terrains within the territory also forbid easy movement of perishable crops. Wright summarizes as:

*“Spanish overlords were content to rest on the laurels attendant on the prestige of large landholdings and on the income gained from extensive grazing and grain production lackadaisically managed.”* (Wright, 1990, p. 130)

This events definitely had an impact on the landscape, the historical account that Wright puts together, indicates that at that time the rates of erosion and “the unending depredations of donkeys, cows, sheep and goats”, increased considerably (Wright, 1990, p. 130).

Jumping a bit forward in time, the Independence did not bring what many Mexican expected in terms of a better economy and attention to poor regions. The 19<sup>th</sup> century was plagued by



armed conflicts and political tensions. To summarize them I present a list of the most representative events, following the comprehensive account of facts by Wright:

- The Wars of Independence from 1810-1822
- The Wars with Texas and the US in 1848
- The civil war known as “Reforma War” in 1857
- The French invasion of 1862
- The dictatorship of Porfirio Díaz, also known as “El Porfiriato”, starting in 1876 and ending with,
- The Revolution War from 1910-1917

Of the previous events, probably the one that had an important effect on the agriculture in Mexico was the Reforma War, following the loss of half the Mexican territory during the Wars with the US, it is associated with the introduction of liberalism into the country and the laissez-faire of capitalism. The original objective of this conflict was to restrict the interference of the Church in the State affairs, bringing back the lands it owned to the hands of the government, following the precepts of the liberalist theory stating that “ownership by the Church or by a community dampened the individualistic motivation for economic gain that fuelled economic growth and development” (Wright, 1990, p. 131). Since the indigenous communities were legally defined as corporate bodies and besides were not politically powerful as the Church, they were also affected and could not be landholders, and rarely could buy it. Wright (1990, p. 131), describes it as “a usufruct privilege granted by the community”, a trend that continues after many years. This means that at this point in history, the struggle for farming land became a political one and still is today. Wright recounts:

*“...most formerly Indian land was purchased by mestizo and white ranchers, commercial farmers, and real estate speculators. As a result, wherever Indian people had managed to maintain some degree of independence after four centuries of conquest, both economic privation and cultural disintegration increased rapidly.”* (Wright, 1990, p. 131)

The Revolution War of 1910 was fuelled by peasants, some famous quotes by the revolutionary and agrarianism advocate Emiliano Zapata show the ideals behind this movement and its roots in the inequalities accumulated for centuries: “The land belongs to those who work it” (Spanish: “La tierra es de quien la trabaja”), and “Land and freedom” (Spanish: “Tierra y libertad”). The movement led to an Agrarian Reform in Mexico that would somehow last until the end of the 20<sup>th</sup> century, although for Wright “Most unfortunate was the fact that while the Revolutionary Constitution of 1917 promised thorough-going land reforms and political change, most of the

hopes of Mexico's peasants, Mixtec included, were unrealized seventy years later" (Wright, 1990).

To understand the emergence of the Alternative Food Networks in Mexico it is also worth to mention some geopolitical events during the second half of the 20<sup>th</sup> century. Becoming part of the NAFTA, OECD and the G20 could suggest that Mexico has been in a trajectory of equitable development.

However, data shows inequalities that deter the development of the country, and have more incidence in specific groups, like small-scale and family-based producers. The UN Economic Commission for Latin America and the Caribbean identified in 2019 eight obstacles for the development of the region<sup>35</sup>, of those, there are four that have more incidence in small-scale and family-based producers: persistence of poverty, structural inequalities, lack of access to basic services and job uncertainty.

The expansionist interventions that the territory known today as Mexico suffered until the early 20<sup>th</sup> century shaped the Mexican identity, promoting a protectionist economy with the national sovereignty as the top priority. During the 1980s, the government saw the proximity to the largest market of the world, the US, as a privilege and in the 1990s Mexico became the main exporter of Latin America. This move to become part of the North American market intended to overcome the limitations of the internal one, considered for some scholars like Rouquié (2015, p. 435) as "globalization by proximity" for Mexico .

In 1994, the North American Free Trade Agreement (NAFTA) was implemented. The NAFTA represented for Mexico the promise of improvement by taking part of exports to the US market. Nevertheless, the effects on immigration and inequality increased as a result of interrupting the industrialisation and substituting development with imports<sup>36</sup>. The promise of joining the first world split economic activities as more aimed to join the international markets, leaving people in disadvantage to compete and even subsist. Only union workers in the US and peasant independent organisations in Mexico opposed openly NAFTA (Rouquié, 2015).

In 1994, Mexico joined the OECD and joined an exclusive group of countries, nevertheless, in Mexico the idea of having a first-world economy contrasted with a third-world regime.

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<sup>35</sup> <https://news.un.org/es/story/2019/10/1463292>

<sup>36</sup> OCDE data reported in the Expansión magazine shows that during NAFTA, Mexican salaries practically did not change, unlike those in the USA and Canada. <https://expansion.mx/economia/2018/05/15/5-graficas-que-explican-la-evolucion-de-los-socios-del-tlcan>

As Tutino (2018) has pointed out in his book, the reality of the Mexican agriculture has been a tale of hybridisation since the 16<sup>th</sup> century. There have been projects oriented to the far-trade and globalised markets, coexisting with others more focused on locality and keeping alive traditional practices. These differences have been accentuated over the years and have led to two traits of importance in this research: 1) a vision of opposition to industrial agriculture due to inequalities faced by farmers, and 2) a hope that international concepts like AFNs can create new opportunities and contribute to social justice. As can be seen in the AFN literature, these features are common in early stages of AFN development.

In the early 20<sup>th</sup> century, the mechanization of agriculture and the phenomenon known as the Green Revolution marked the beginning of more dispossession of former landholders and fomented migration within and outside the Mexican territory.

#### 4.1.2 The Green Revolution

The effort known as the Green Revolution intended to include tropical and semitropical countries in the mechanized and commercial type of agriculture that developed in Europe and the US. It started in Mexico in 1941 as an effort of agricultural modernisation between the Rockefeller Foundation and the government, its scope was a transformation of agriculture at a global level, creating models worth of imitation. According to Wright (1990), the basis of the Green Revolution was the breeding, selection and testing of plants in the different climates of a country like Mexico, creating crop seeds with higher yields, the deterrent in this experimentation process, was that the new seeds needed more irrigation and were agrochemical-dependent, leading to a large use of private and public financing, which had deep effects in both society and economy. Additionally, there were considerable environmental changes due to the consumption of the resources of water and chemicals.

An immediate consequence of the high needs of money to make the new seed varieties work, was that small-scale farmers lost control over those with more money at hand. For Wright (1990), the Green Revolution is one of the most drastic social and environmental drivers of change at global level of the second half of the 20<sup>th</sup> century. In the case of Mexico, it transformed the north-Pacific area of the country, creating a food hub that still supplies the US with plenty of food. The Green Revolution coincidentally took place and spread among Third World countries where labour tends to be cheap and its recruitment can be better controlled (Wright, 1990).

There is another element of the Green Revolution that can be linked to the resurgence of activism in the food arena in Mexico, now as small-scale “alternative” production methods, it is

the effect that it had in the discourse of modernization, tirelessly recurrent since the introduction and imposition of different production methods through the history of the country. Wright (1990) ties it to the extensive use of pesticides, but also to policy, since areas of Mexico like Culiacán in the north-Pacific got a lot of public investment to develop what is now an area of intensive food production for exports:

*“But the Green Revolution established an approach and a set of concepts about modernization that have come to dominate agricultural policy, so much so that the term Green Revolution is often used somewhat inaccurately simply to mean agricultural modernization in nonindustrialized countries or, a little more precisely, the promotion of new seed varieties strongly dependent on synthetic agrochemicals.*

*To question chemical pesticides as the overwhelmingly dominant means of protecting crops is to raise an amazing variety of other questions about the way we do things.”*

(Wright, 1990, p. 8)

The term “Green Revolution” is still out there after decades, after the water scarcity issues of recent years that have affected the State of California in the US, a state that contributes largely to that country’s food production, in January 2016 an article from the New York Times called for a “New Green Revolution”. In more precise terms, the article points at the necessity of innovation in agriculture through new-improved techniques that can keep pace with the food demand. According to the article, innovation in agriculture has been slower than expected. A call for more productivity seems to be a trend in literature and media, nevertheless the new way to approach these issues must take into account a shift values and epistemes and embrace a view where actants are not only human, but also including other non-human elements shaping our lives, time and the world, coming into terms with nature instead of trying to master it (Perfecto, et al., 2019). Pointing at the importance of “agricultural output” must not forget this time the impact that the original Green Revolution had in the increase of use of pesticides, migration of labour from other countries like Mexico and the deep changes it promoted in the Mexican economy, society and environment to cope with the demand (Wright, 1990). Even if in recent decades the synergies of the two countries in food production include organic standards and this has promoted to some extent a change in the agricultural technologies, but not exempt of disappointments (Guthman, 2014), it is still a matter of not focusing on productivity but an integrated system that includes the planetary challenges of today (Perfecto, et al., 2019).

In the following section, official data will be presented to illustrate the extent of Mexican production in the organic sector.

#### 4.1.3 Government data: small-scale food producers in Mexico

In this section, the context of small food producers in the national agricultural production of Mexico is presented. The information has been extracted from the main reports on agricultural production in the country. The big picture shows that a combination of factors that include a limited access of small Rural Economic Units, or “REU” (Spanish: “Unidades Económicas Rurales”) to the market, as well as observable poverty levels, are the main reasons affecting them. The government reports recognize the importance of small producers and state good intentions to empower them within the national agricultural production in the following years, nevertheless, in a deeper understanding of the situation, it is recognizable that even with the incentives they may receive, small producers are prone to be another way to continue some of the market-driven practices that started with the Green Revolution. The section gives place to the organic food production in Mexico, an area where small food producers have found hope as active participants in recent decades.

#### 4.1.4 Rural and urban poverty in Mexico

In this subsection I will present some government data extracted from the Official Journal of the Federation (Spanish: “Diario Oficial de la Federación”), from 2014, when it was presented for the last time the situation of the small-scale producers of Mexico. The economic situation of the family-based producers may not seem at first sight worse than the population of urban areas in Mexico, where the percentage of rural population in poverty is above the national average but is not disproportionate.

Acute poverty is worse in rural areas, in 2012 the percentage of the total population suffering it was 9.8% in urban areas, and 18.9% in rural areas. With the aid of the Official Journal information, I argue that the family-based food producers from rural areas are the ones who have been most forgotten by government incentives over the years and have had practically no chance to access the type of producers, more conventionalized, who actually have access to them. At the same time, leaving the small-scale producers aside from conventional agriculture techniques allowed them to be part of the organic food production destined to exports. Unfortunately, this type of food production faced a similar trend of conventionalization and the small-scale producers who were left behind again, found in a more localized organic production movement, an alternative to take their products to the sellers. This phenomenon can be seen as a series of bypasses the small producers make to overcome commercial pressures.

Nevertheless, a closer look reveals an unfair situation for small food producers. In 2014, the Official Journal of the Federation, or OJF (Spanish: “Diario Oficial de la Federación”), the official government publication in Mexico used by Powers of the Federation to legally inform on

political, economic and social matters, published data of the Institutional Programme of Agriculture Related Trusts 2013-2018 (Spanish: “Programa Institucional 2013-2018 de los Fideicomisos Instituidos en Relación con la Agricultura, FIRA”). The trust was created in 1954 between the Federal Government and the Bank of Mexico to stimulate the participation of private credit institutions in the financing of agricultural activities in the country, in that time, the agricultural sector represented more than one quarter of the Mexican economy with more than half of the population working on it, private financing was limited<sup>37</sup>.

There are about 5,4 million REUs in Mexico (OJF, 2014), distributed along the country, the economic activities they represent are agriculture, livestock, fishing, forestry, product processing and other rural non-agricultural activities. Depending on the location of the REUs, they have different economic activities and have different available environmental and economic resources, as well as climate, in consequence, they also have different incomes. Their study generates indicators that allow the creation of public policies better adapted to specific groups, which allows a better allocation of public budget.

This issue of the OJF released information about the Rural Economic Units (REUs) of the country, which are the units of rural production counted in the National Agricultural Surveys. The REUs are grouped in six categories, ranging from the most basic, family-based, to the more organized ones, labelled as entrepreneurial (Table 7).

1. Subsistence family-based agriculture without access to the market. These REUs have an average area of 3.5 hectares.
2. Subsistence family-based agriculture with access to the market. 8.8 hectares in average.
3. In transition from family-based to entrepreneurial. 32.2 hectares in average.
4. Entrepreneurial agriculture with low rentability. 37.5 hectares in average.
5. Pushing entrepreneurial agriculture, 141.4 hectares in average.
6. Dynamic entrepreneurial agriculture, 297.6 hectares in average.

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<sup>37</sup> <https://www.fira.gob.mx/Nd/AcercadeNosotros.jsp>

REU type	REU (quantity)	Income (sales in MXN)
Family no access to market	1,192,029	0
Family access to market	2,696,735	20,798.79
In transition	442,370	89,373.76
“Entrepreneurial-fragile”	528,355	183,699.10
“Entrepreneurial-pushing”	448,101	679,914.42
“Entrepreneurial-dynamic”	17,633	14,143,904.60
Total	5,325,223	

*Table 7. Rural Economic Units (REUs) quantity and income (Diario Oficial de la Federación, 2014)*

From the classification of REUs, the unfair situation that small, family-based producers face is derived from the following factors:

- **Income and poverty:** the largest income goes to the producers that have adopted an entrepreneurial scheme (4, 5 and 6), while the ones in the categories 1, 2 and 3 account for a minimal amount of the total income. In 2012, Coneval or the National Council of Evaluation of Social Development Policy (Spanish: “Consejo Nacional de Evaluación de la Política de Desarrollo Social”), reported that the states in the country with 65% of the population in poverty were the ones with the highest amount of rural population (understood as the people who live in places with less than 15 thousand inhabitants), the states are: Chiapas, Guanajuato, Guerrero, Hidalgo, Jalisco, State of Mexico, Michoacán, Oaxaca, Puebla, Tabasco and Veracruz. Coincidentally, several of those states have raised to an important role in the organic food production in the past decades, which will be discussed in another section of this chapter. For the moment, it is worth to mention that there is a coincidence in the states of Mexico with high family-based REUs, low income, lack of access to private loans and participation in organic production. Arable land: most of the arable land belongs to the categories 5 and 6, which have access to mechanized means of production.
- **Productivity:** despite having a lower amount of available land, most of the production in the country (and the world), comes from the small producers (Diario Oficial de la Federación, 2014). This speaks of the higher productivity that some of these producers have in smaller areas, according to Altieri, this can be related to agroecological

production techniques (Altieri, 2002). At the same time, it is counterintuitive that the same small producers are the ones suffering higher levels of poverty.

The fact that family-based REUs contribute to most of the food production of the country but also have a low income, points at their potential to increase their participation in the food production of Mexico, having a higher productivity than conventionalized REUs thanks to the alternative use of production techniques.

Nevertheless, the unequal distribution of income associated to poverty reflects an unfair situation for small producers and suggests the existence of a series of market-driven obstacles for them to access better payments for their products. It also reflects the absence of more adequate channels to sell their products and get a reasonable amount of money for them, a situation that has been addressed by Alternative Food Networks (AFNs).

The disproportion in the REU numbers is also a consequence of the concept of yield (tons per hectare), when the yield is high it is usually attributed to better practices, but this happens only if it is seen from the perspective of the industrialised-conventional paradigm of agriculture. The reality for many countries like Mexico, is that most of the food is produced by many people who happen to be small producers. In Mexico, 72.6% of the REUs occupy an area of up to 5 hectares, whilst those between 5 and 20 hectares represent 22.3%, an indicator of intensive agriculture practices.

Two additional factors generate pressure on small producers. The OJF reported a low penetration of production technologies in the area cultivated in Mexico, among the cited are chemical fertilizers, herbicides, artificial irrigation, improved seeds and insecticides, all of which are examples of conventional practices. This numbers represent at the same time an opportunity to promote a shift in practices that are proven to create environmental problems and decrease the fertility of the soil.

The need of monocultures is also part of the diagnosis presented in the OJF; it is argued that insufficient arable surface has been assigned to products of a higher added value. They cite that fruits and vegetables that contribute to the 44% of the production only represent 14% of the harvested surface.

In consequence, the people need to pay for more expensive food, which increases poverty. In 2014, the OJF estimated that the poorest 10% of the Mexican population spent 58% of their income in food. Due to climate disasters or not, high food prices impact poor families in the quantity, diversity and the quality of food they can afford, which in consequence diminishes their capacity to invest in other things like education, increasing their vulnerability to poverty.



As it will be discussed in the finding's chapters, the reason why rural people do not appear as frequently in the statistics of formal employments, is due to the low prices they receive to work in agriculture (INEGI, 2018), and the fact that they produce food for self-subsistence. Many people see a better source of income in food-related activities like tourism and sales of regional products (e.g. mezcal from Oaxaca).

The objective of the FIRA programme reported in 2014 was “to make all the producers in the rural areas, subjects of financing”, the statement and numbers seem to attend only the needs of those producers who had capacity to get a credit, the same report by the OJF states that the FIRA programme could only cover 9% of the total of REUs in the country, additionally, those resources were only destined to the producers who could pay for the credit obtained, or “with incomes above the poverty line”, which account for 40%. This scenario is adverse for those producers that have a small piece of land, suffer poverty and cannot obtain a credit, have a small production or only try to sell the food they do not consume as an additional source of income. FIRA is an interesting trust but is focused on the major REUs and has a conventional agricultural approach, it seems difficult for a small producer to be able to acquire a credit and be able to pay it if they do not have a secure sale for their products.

The report on the FIRA programme of 2014, states that the programme does consider the people in the low income REUs, but they claim to need coordinated action with other government institutions.

It results of interest for this researcher that the people who participates in the visited Alternative Food Markets, did not opt for this kind of financing programme. No interviewee had heard of being part of a REU, which means that there is a gap that can be addressed by the Alternative Food Networks, which may be a viable option for both family-based REUs and producers outside the REU universe. Additionally, those who opted for financing, looked for it in the conformation of cooperatives.

## 4.2 The “quality turn” and the inclusion of Mexico in the global organics production

In this section, I will show how Mexico entered the world production of organic food and how this created the Mexican Network of Organic Markets or REDAC. It is intended to draw a parallel with the literature of AFNs and AE shown in Chapter 2.

### 4.2.1 20th century: the organic agriculture in Mexico takes off

Organic agriculture, as a contemporary concept, started in Mexico during the 1980s as a response to the demand from developed countries of products not easily found in their latitudes

due to climate and season. Initially, it was only a complement to diversify the fulfilment of the demand of a market that already existed.

The production started when a variety of stakeholders in Mexico were contacted by people from industrialized countries requesting the production of certain organic products, this mainly took place in areas where chemicals were not employed, like the indigenous regions in the states of Oaxaca and Chiapas, where people use traditional agriculture techniques. Eventually, companies from the U.S. promoted the shift towards organic production in the northern states of Mexico, by offering incentives and trading opportunities to private producers and enterprises (Gómez, 2007).

#### 4.2.2 1990s and early 2000s: growth

According to Gómez and Gómez (2014), in the beginning of the 21st century, Mexico occupied the 1<sup>st</sup> place in the world in production of organic coffee while the amount of land destined for organic agriculture had increased considerably, between the years 1996 and 2002 it grew from 23.000 hectares to an estimated of 216.000, occupying the 18<sup>th</sup> place worldwide. Their data also points at the contribution of small producers since the beginnings of the organic agriculture in Mexico, reaching a 98% of the 53.000 organic producers and cultivating 84% of the area with a 69% of income generation at national level. Not only the number of small producers taking part in the production is interesting, but the authors mention an emergence of “local self-managed processes in rural communities”, which can be considered one of the first records of alternative food movements in the country.

The organic production sector in Mexico has grown despite the economic crises. In 2000, there were 262 zones of organic production, the states that concentrate almost 83% of the organic surface are Chiapas, Oaxaca, Michoacán, Chihuahua and Guerrero, of those, four are located in the south-Pacific coast and two with a strong indigenous identity produce 70% of the total, Chiapas and Oaxaca. By 2004, the zones of organic production had increased to 668, producing coffee (45.26%), fruit (29.56%), avocado (12.77%), vegetables (6.57%) and grains (5.66%). The states concentrating the production were Chiapas, Oaxaca, Michoacán, Veracruz and Guerrero (Gómez, 2007), the demand is for products that are either tropical, growing in winter or labour-intensive.

In 2004, Organic Monitor research and industry estimates located the amount of organic farmland in Latin America in 5.8 million hectares, the region occupied the second spot in the world behind Oceania and it only considered sales of certified food and drink.

#### 4.2.3 2006 to the present: current panorama for organics and The Mexican Law of Organic Products

In Mexico, a Law of Organic Products was issued in the Official Journal of the Federation in 2006, and a Regulation of the same Law in 2010. Their objective is to “Promote and regulate the criteria and/or requisites for the conversion, production, processing, elaboration, preparation, conditioning, storage, identification, packaging, labelling, distribution, transport, commercialization, verification and certification of products produced organically.”<sup>38</sup>. In consequence, this law aims at the creation of criteria to be fulfilled along the productive chain of organic products, so they can be labelled as such in the national market and be ready for exports.

The Law considers a “conversion period”, which is the time between the start of the organic production and/or handling and the certification, applying to cultivars, cattle or other agricultural activity. The organic production considers the production and processing of food, products and sub products of animal origin, plants or other commodities, promoting a regulated input of external resources, in particular prohibiting or restricting synthetic chemicals.

The law is complete in the range of activities it aims to observe and regulate. The processing involves several activities that range from cooking, baking, curing, heating, drying, mixing, blending, separating, extracting, animal sacrificing, cutting, fermenting, distilling, preserving, dehydrating, pre-cooling, cooling and freezing. Other “analog procedures of manufacturing” also include the packaging, re-packaging, canning, labelling, and packing. In the final part of the organic production chain, consisting of storage, transportation and distribution of the products, the law refers to the dispositions that the Secretary of Agriculture with the aim to keep the “organic integrity” of the products. In terms of certification, the law states that only the Secretary of Agriculture or accredited Certification Organisms. If the criteria are meet, the product can be labeled with a seal that says “Organic SAGARPA Mexico”, commonly referred as “SAGARPA Orgánico”.

The process to obtain the “SAGARPA Orgánico” seal for organic products that the Secretary of Agriculture provides is verified by SENASICA, the National Service of Sanity, Innocuity and Agrifood Quality (Spanish: “Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria”), following international standards. But for such task, SENASICA calls for applications so other organisms gain approval to work as “Organism of Certification of Organic Products” (Spanish: “Organismo de Certificación de Productos Orgánicos”).

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<sup>38</sup> <https://www.gob.mx/senasica/documentos/ley-de-productos-organicos?state=published>

The Consumers' Federal Attorney's Office (Spanish: "Procuraduría Federal del Consumidor"),

It may seem that the increasing number of laws on organic production overtime have created nothing more than a reaction in the small producers, it seems that new laws and regulations make producers find more bypasses to continue selling their products in the way they find more convenient. This is important because it could mean that the "alternativeness" could be reduced to a reaction to the conventional agriculture.

#### 4.2.4 Year 2017 and future prognostics

In their 2017 report, the Research Institute of Organic Agriculture (FiBL) and IFOAM Organics International, indicated a positive trend of organic food production in the region of Latin America and the Caribbean at three scales: international, regional and local. Despite addressing family agriculture and local markets among others, there is still a feel of lack of access of the small producers, despite their high involvement since the beginning. A growth in organic production would suggest more involvement of the small-scale producers. In the same year, the US remained the world's largest market for organic foods (FiBL and IFOAM, 2019).

### 4.3 The Mexican Network of Tianguis and Organic Markets (REDAC)

This section will address the emergence and growth of the Mexican Network of Tianguis and Organic Markets, or REDAC, that will lead to the empirical chapters with the Alternative Food Markets as case studies.

#### 4.3.1 Emergence

As stated in previous sections, the organic Mexican production is oriented to satisfy the demand of products that are not easily available in industrialized countries due to climate, season or labour-intensity. Data from the first decade of this century by Nelson, et al. (2008), indicates that 98% of the organic producers work in small-scale, cultivating an average of 3 hectares and more than 50% of them are indigenous. Despite this, the fact that 86% of the organic production is destined to exports, means three things at local level, first, there is a large ecological footprint represented in the amount of resources necessary to transport and package the products, two, a production oriented towards exports leaves the producers dependant of the fluctuations of the international market; and three, it lowers the degree of development in the domestic markets.

Nelson, et al. (2008), argue that like in other countries, the development of a "conventional organic industry" triggered a local organic movement, which could be seen in some grocery shops, specialized shops and cafes, mainly in Mexico City and its surroundings. The small-scale

efforts led to the creation of 17 organic markets in 9 states of the country, constituting in 2004 the Mexican Network of Organic Markets (Spanish: “Red Mexicana de Mercados Orgánicos”).

According to Nelson, et al. (2008), the markets who constituted the Network retained an independent identity due to their unique context and characteristics, they worked towards ecological sustainability by improving the environment using organic agriculture, but they also conceived sustainability in terms of economic and social justice. The mission of the participants of the Network is that safe and healthy organic products are available to all Mexicans, not only those who live in urban centres and can pay high prices. This idea rescues the ideal of “organic” and tries to bring it back to those who were originally involved in their production.

To put this ideal into practice, Nelson, et al. (2008), reported that the organic markets aimed to work with goods from local small-scale producers, the idea behind this is to reduce the transport and packaging of the products, eliminate intermediaries, allowing the small producers to earn more money for their production and at the same time, they can offer more reasonable prices to the consumers. A closer interaction between producers and consumers, referred as “communitary collaboration”, intended to increase solidarity and trust in their localities, hence, the markets members of the Network assumed a mission of being not only organic, but local.

In contrast to the already established public markets, Nelson, et al. (2008) observe that the Mexican local/organic markets members of the Network were not conceived only as places where people interact when they buy and sell goods, they also took the challenge of becoming spaces where trade and consumption could translate into “political, social, ethical, educational and entertaining” actions. To accomplish this, they organize a wide variety of workshops, conferences and other activities for both adults and children, which undoubtedly have an effect in educating and sensitizing the attendees around organic food topics. Additionally, they host cultural events like dances, musical shows, celebrations for their anniversaries, and organize fairs for traditional festivities. These activities keep traditions alive and as a result, the markets support organic agriculture in a holistic way, contributing to the social sustainability.

#### 4.3.2 The organic markets in a view

The Network had 24 registered organic markets at the time of the online research in July 2016, due to unknown reasons, the website was taken down at some point in 2017. I propose three groups of markets based on their location (see maps in the Appendix section).

- The first group of markets is in the states with the most conventionalised organic production in the country: Chiapas, Oaxaca and Veracruz. The absence of AFMs in states

with high organic production like Michoacán or Chihuahua could indicate that those areas are more dedicated to exports.

- The locations of the second group coincide with the two main cities in the country: Mexico City and Guadalajara. In this group, I include those markets that are located in the states of Central Mexico's Megalopolis<sup>39</sup>. These states are expected to be absorbed by urbanization in this century: State of Mexico, Querétaro, Tlaxcala, Puebla, Querétaro and Morelos.
- The third group of markets is in touristic destinations, frequented by people from industrialised countries who use to consume organic products: Cancún, Los Cabos and Acapulco.

The main type of markets in the REDAC Network are a reaction to the industrialised organic production for exports and can be considered as “alternative to the industrialised organic”. These markets are mainly organic, participants are in charge of getting their organic certifications. The first case study or AFM01 belongs in this category.

The second type of markets appeared just a few years after the organic ones, departing from organic certifications that are their participants consider expensive for many small-scale producers. These AFMs embrace other ways of food production in addition to the organic, such as artisanal, traditional, and should be understood as “alternative to organic certified”.

In a timeline, the first type of AFMs are part of an “organic as alternative” movement, where “alternative” indicates that they are small-scale, family-based, not part of the Mexican producers with infrastructure to export.

The second type of AFMs emerged shortly after, they recognise the “organic as alternative”, but are critical about the elitism and costs of organic certifications.

Comparing the two case studies, it could be said that on a timeline, the AFM01 emerged first, and the AFM02 did it as a response to some aspects they did not like about the first type. Since they emerged after, in some way the second type relied on the networks that the first type of AFMs had already created.

At the time of the fieldwork of 2016, the AFM01 and AFM02 seemed to share practices and a few vendors belonged to the same cooperatives of producers and towns. The AFM02 seemed to be more diverse in products, probably due to the wider variety of production styles accepted.

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<sup>39</sup> This cluster of states surrounding Mexico City have been traditionally linked to its economic activities, including food supply.

By 2018, the AFM01 also had of beauty care and others that they had not included before. The producers of the AFM01 were more differentiated in 2016 in terms of packaging and labelling, but in 2018 several producers of the AFM02 also had adopted labels and designed packaging.

In terms of conventionalisation, the observations indicate that the AFM01 had certain guidelines clear from the beginning, whilst the AFM02 was exploring and creating some practices of their own. By 2018 more features were shared between them, indicating that conventionalisation was common to both types. However, the AFM02 has a more localised approach, which is part of their vision.

Another consequence of conventionalisation is that some producers, once having a more solid infrastructure thanks to improved income and livelihood, have created either new food movements beyond the alternative-commercial nature of AFMs, or scaled-up their projects to make them work more like businesses. In this sense, producers have benefited from participating at AFMs and have promoted bifurcations in other types of food production and provisioning projects.

It could be said after the fieldwork, that an “alternative to AFMs” type of network has emerged. These new types of Alternative Food Networks may not exchange food using money and can be aimed at improving rural development and urban agriculture in other ways.

#### 4.3.3 REDAC Challenges

In the previous section, government data and regulations illustrated the situation of disadvantage that small-producers face, now I will present an overview of the challenges faced by the organic markets from the perspective of the authors who were close to the Mexican Network of Organic Markets in its beginnings. This will lead the discussion to the empirical chapters.

When Nelson, et al. (2008) refer to the common challenges faced by the markets of the Network, they identify the group of people working or supporting them as part of a “movement”, which creates the idea of something more than production and trade. To begin with, despite the increase in the number of involved, each market struggles to get the physical and human resources to conduct their functions. The authors attribute this to the low income of the market, which is not yet high enough to be able to rent established venues or pay a salary to the organizers. This makes them dependent on donations and voluntary work. In second place, and because of the lack of enough monetary resources, is a limitation to have training programs for producers and consumers, affecting also those producers who want to learn to produce organically but do not have yet the “know how”. Third, there is a shortage in the offer of

products at the markets, which according to Nelson, et al. (2008), contradicts the common assumption that demand is the key issue in the chain, for these authors the consumers look for products that are not available, creating a need in the markets to find the appropriate producers to increase the variety of products that can fulfil the demand and preferences. Fourth, for Nelson, et al. (2008), the Network intends to promote the exchange of products among markets, but the lack of monetary resources for transportation has made it impossible.

Fifth, the economic and bureaucratic obstacles are for Nelson, et al. (2008), prevent producers from getting the appropriate organic certifications, which in consequence, diminish the trust from the consumers in the “integrity” of the offered products. As a solution to this challenge, the organic markets of the Network have encouraged the concept of “participative certification” and work towards “Systems of Participative Guarantee” (Spanish: “Sistemas de Garantía Participativa”). These systems aim to minimize the bureaucracy, because they do not require any payment from the producers and at the same time bring an element of social and environmental education at both sides of the organic exchange.

Despite disappearing at some point between 2016-2017, the name of the Network is still found in small markets of recent constitution along the country. With no doubt, it left a legacy that hopefully will be retaken in the future.

The mission of the Mexican Network of Organic Markets as stated by Nelson, et al. (2008), put into the context of the common challenges that the markets face, makes one think if it may have been too ambitious and difficult to make it happen.

To understand the markets in question, I will refer to them as “alternative food markets” or “AFMs” In the following empirical chapters a more in-depth analysis of them will be conducted. I will present and analyse two case studies of AFMs in Mexico City.

#### 4.3.4 REDAC data

Data from 2008 reports 83,000 producers producing organically across more than 300,000 hectares, an equivalent of 1.6% of the agricultural land of Mexico. Of those producers, 98% work on a small scale, averaging three hectares worked, and more than 50% are indígenas (Nelson et al., 2008).

The markets are gathered in a group managed by the University of Chapingo (UACH) and have financial support from the Falls Brook Centre of Canada. There are currently 50 organic markets participating in the Platform of Organic Tianguis and Markets (see Appendix section for maps).



According to the website of Tianguis and Organic Markets (Tianguis y Mercados Orgánicos), the organisation gathering several initiatives of local markets in Mexico, “most of the Mexican organic production is exported mainly to the United States of America, Germany, Holland, Japan, England, Switzerland and Canada. Only 15% of the production is commercialised within the country.”

The main difference between the non-conventional network of producers of Mexico City in the late 1990s and today, is the existence of places where they can offer their products. Previously there were only sporadic events like organic fairs, but today the periodic occurrence of these tianguis or markets is a more solid alternative. According to Nelson et al. (2008) the first initiative to create an organic market took place in 1996 in Guadalajara, Jalisco, evolving from an eco-store to organic market. Following initiatives in 2003 gave birth to the organic markets of Xalapa (Veracruz), Chapingo (State of Mexico) and Oaxaca (Oaxaca). From 2005 other markets were founded in Tlaxcala (Tlaxcala), Xico (Veracruz), Coatepec (Veracruz), Los Cabos (Baja California Sur), Cuautla (Morelos), San Cristóbal (Chiapas) and Puebla (Puebla).

The main goals of having a national network of organic markets reported by Nelson (et al. 2008), are:

- to secure learning from experiences among them,
- to create an environment of solidarity,
- to increase consumer trust,
- to create a space for the exchange of information on topics related to organic agriculture and
- allow an increasing presence of the organic markets at national level.

Nelson et al. (2008) noted that organic products started to be sold in Mexican grocery stores and cafés mainly in Mexico City and its surroundings in the last decade; the efforts to promote small-scale organic production gave origin to several organic markets around the country. In 2004, the markets belonged to the Mexican Network of Organic Markets (Red Mexicana de Mercados Orgánicos), nowadays called Platform of Organic Tianguis and Markets (Tianguis y Mercados Orgánicos). By 2008 there were 17 markets in nine states.

The website lists as aims of an organic market (Tianguis y Mercados Orgánicos, 2016) the following:

1. “To offer healthy food at fair prices.

2. To provide spaces of commercialisation to responsible small producers.
3. To announce the philosophy of the organic agriculture.
4. To link the urban and rural population.
5. To stimulate the local consumption of organic products.
6. To promote the bio-cultural heritage of Mexico.
7. To minimise the ecological impact in the commercialisation of food through the savings in transport, packaging and distribution of products.
8. To offer spaces for getting together and the development of cultural activities and scientific divulgation”.

From these aims, it is noticeable that the organisers of local markets in Mexico have a holistic approach towards the operation of their supply chains and a clear vision towards sustainable practices. It is a subject to be studied in the present research if their organisation and operations can promote the improvement of the urban food system.

An IFOAM (“International Federation of Organic Agriculture”), case study on Participatory Guarantee Systems conducted in 2013 (IFOAM, 2013), collects the “specific objectives” of the REDAC:

- “To promote the bonding among the different tianguis and organic markets in Mexico, fomenting the production and consumption of organic and healthy products mainly from the local.
- To foment the fair and solidary trade among the members of the network.
- To promote, support and assess the reconversion of conventional and natural products to organic.
- To organize and foment activities of formation through courses, workshops, conferences and other media.
- To promote and assess in matter of “Participative Certification” (PC), with the aim of guaranteeing the origin and organic quality of the products that are offered in each tianguis and/or market.
- To promote and develop the adaptation of alternative ecotechnologies that allow the local production of organic foods, diminishing the dependence of external elements to the system.

- To participate in academic, scientific and dissemination events at national and international level.
- To organize events to exchange and disseminate experiences from the members of the network, as well as from all the other people interested in the production and consumption of organic products.
- To boost the feedback with other instances involved in the trade of organic products, to strengthen the local and fair trade.
- To actively participate in the design and formulation of public policies related to the local production of organic products.
- To perform diagnose studies of economic, technological and social kind.
- To develop printed, digital, audio and video material for the formation and dissemination.
- To celebrate contracts and execute the acts that are relative and connected with the social ends and acquire the movable and immovable property for the establishments and services of the Association.

The REDAC was not able to be certified and the task was left by law to each of the organic tianguis and markets, diminishing their capacity to act as a network. Although Bustamante and Schwentesius (2018) accept that each member of the REDAC has its own identity and context, the report of the same network by (IFOAM, 2013) clearly states objectives that cannot be accomplished if the AFMs opt to work separately, this could be a reason for the disappearance of the REDAC website at some point in 2018. In short, the organic term has been in tension, with a number of AFMs moving in a different direction with arguments on elitism, difficulty to get the organic certificate among the main reasons. In this last subsection, I will show how the meaning of organic is totally different when one reaches the edge of the network.

#### 4.3.5 Food production and distribution challenges in urban areas: Mexico City

In this section I introduce some basic characteristics of Mexico City to put into context a series of challenges that food production and distribution face in urban areas. The discussion of the particularities of Mexico as a country in terms of food production and Mexico City in particular will be retaken in Chapter 4.

The United Nations (2015) reports that nine per cent of the global population lives in Latin America and the Caribbean (634 million people), with two of the largest countries in the world, Brazil and Mexico. The population of Mexico increased from 28 million people in 1950 to 127 million in 2015, moving from the seventeenth most populated country of the world to the tenth. It is estimated that the Mexican population will reach 164 million people by 2050 (INEGI, 2017).

The growth of a city is commonly related to its population or its area. In both cases, because of the absence of standardised international criteria to define the geographical limits of cities, it is common to find a variety of definitions. According to the United Nations (2016), the administrative boundary is called “city proper”, the extent of the contiguous urban area is the “urban agglomeration” and the “metropolitan area” relates to the economic and social interconnectedness of surrounding areas.

Mexico City is located at the centre of a megalopolis with around 25 million inhabitants. It encompasses more than 173 municipalities of neighbour states and the surrounding metropolitan areas of Puebla, Cuernavaca, Toluca, Pachuca, Querétaro, Tlaxcala, Cuautla and Tula (Proaire, 2002; Satterthwaite, 2007). The metropolitan area of Mexico City is located in the Basin of México (commonly named Valley of Mexico); at 2,240 metres above sea level, the area is surrounded by mountains including two volcanoes, Popocatepetl and Iztaccíhuatl. The city coincides with the Ring of Fire, where seismic and volcanic activity are normal. Mexico City presents challenges related to its geographical location and characteristics, besides an explosive urban sprawl related to poverty in the rural areas (Figure 13).

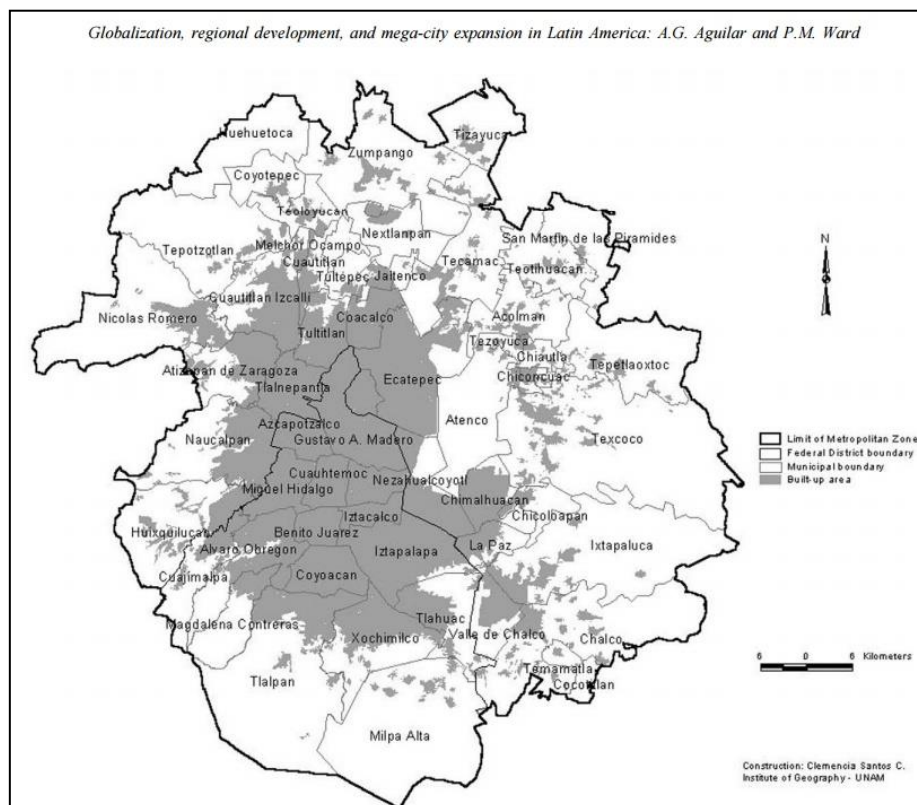


Figure 13. Political limits of Mexico City and its Metropolitan Area (Institute of Geography, UNAM)

An urban structure reflects the dynamic socio-economic processes that shape it from its creation. It encompasses the alignment and characteristics of buildings, streets and open spaces,

and is influenced by the spatial distribution of social classes (Taubenböck et al., 2008). The processes that shaped Mexico City in the last three decades of the twentieth century according to Hiernaux (1999) were mainly product of the new oil economy and globalisation. They produced a new spatial and social behaviour with recognisable traits:

1. A considerable increment in the consumption of luxury items that promoted the creation of malls principally in the south and west side of the city.
2. The recovery of central areas that became unsafe places after they were left behind by the upper classes and the gentrification of those neighbourhoods. These areas coincide with informal commerce on the streets.
3. Isolation of luxury neighbourhoods created in the suburbia of the city, created by the rich families that abandoned the central area of the city after the Revolution in 1910.
4. An increment of prices in the real-estate sector that pushed low-income families to the periphery of the city, incrementing at the same time the amount of informal jobs and insecurity. This phenomenon is assumed to have been driven by force, but by the market.

A slower demographic growth and the regional relocation of industries in the area of Mexico City suggest a shift in the pattern of the urban structure (Taubenböck et al., 2008). In contrast, surrounding cities have experienced growth, leading to a polynuclear megalopolis (Aguilar, 1999; Aguilar and Ward, 2003) (Figure 14).

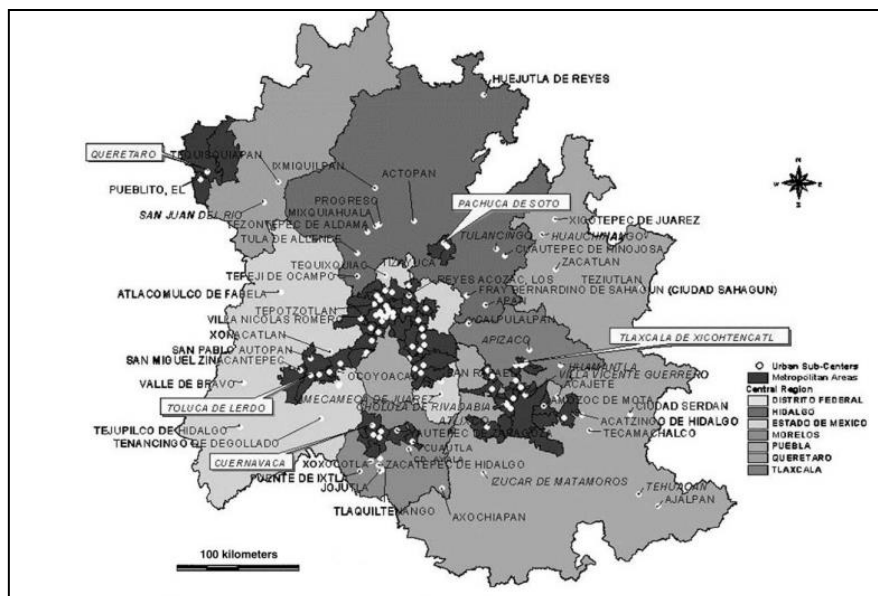


Figure 14. Metropolitan zones and urban sub-centres in the central region of Mexico, 1995 (Aguilar and Ward, 2003)

The study by Taubenböck et al. (2008) indicates that urbanisation in Mexico City during the last decades of the twentieth century took place mainly in the north and southeast, principally due to the natural characteristics of the city. Redensification in the urban core decreased and subcentres emerged, mainly in the north. This trend suggests that peripheral areas have grown faster than the city core, leading to a “concentrated deconcentration” (Aguilar, 1999). If the agricultural land in peri-urban areas is appropriated by new settlements, the pressure on the ecosystem services may lead to irreversible damage (Zhu et al., 2017).

The management of transport operations in an urban environment is complex. Studies on “food miles” have shown that the main impacts in urban environmental sustainability and costs are caused by food transport (Pretty et al., 2005; Pirog and Andrew, 2005; Coley et al., 2009; Kemp et al., 2010). When AFNs appear under the term “short food supply chains”, the term “short” applies to social and physical distance. There are few or no intermediaries. The social distance indicates interaction and exchange of information between producer and consumer. Physical distance refers to the distance a product has travelled from the place of production to the sale. Physical distance is influenced by the particular policy context and the consumer expectation (Galli and Brunori, 2013).

The interaction between producer and consumer represents an exchange of information that includes origin details, methods of production, product sustainability, identity, values and ethics of both of them.

The benefit of reduced food miles in urban agriculture may be overrun by inefficient energy and production inputs that make it highly dependent on the farming system, making urban agriculture a less than optimal alternative for cities in the Global North looking for a better urban environmental performance (Goldstein et al., 2016b).

Congestion and increasing constraints in road sharing, traffic regulations and local authority planning continuously worsen the last-mile movement of goods in an urban environment (Iakovou et al., 2016).

Pramatari (2016) identifies three new major consumer trends related to the increment of food distribution flows in urban contexts (Table 8).

Consumer trend	Impact on distribution flows in urban areas
Increasing move of consumers from monthly shopping trips to big hypermarkets to frequent smaller-basket visits to neighbourhood-based convenience stores.	Increased distribution flows from manufacturers of packaged and fresh food to convenience stores in urban areas, either directly or through retail distribution centres.
Consumers turn towards quality of food (e.g. organic food) and production origins (or site-specific farming).	Increased product flows from local producers to retail stores in urban areas as well as to consumers directly.
Significant increase in online shopping, especially in big city centres, where consumers often request home delivery out of normal working hours.	Increasing number of previously non-existent direct-to-consumer distribution flows, from either retail stores or distribution hubs of online retailers.

*Table 8. Top consumer trends leading to increased distribution flows in urban areas. From Pramatari (2016).*

Collaboration and consolidation of flows are identified as measures to control the urban environmental burden due to the emerging distribution trends identified (Pramatari, 2016) (Figure 15).

Recoupling food production and consumption in a peri-urban area is compatible with the coexistence of different types of farming systems, leading to the idea of possible simultaneousness of local and global agriculture models in a specific territory. The conditions for such coexistence need to be analysed (Duru et al., 2016; Tedesco et al., 2017).

An analysis of alternative food networks has been done in Europe, showing that there may be a link between scale and eco-efficiency in the processing and distribution, but there is concern on the impact that agricultural inputs, yields and distances travelled have on the environmental performance (Kulak et al., 2016).

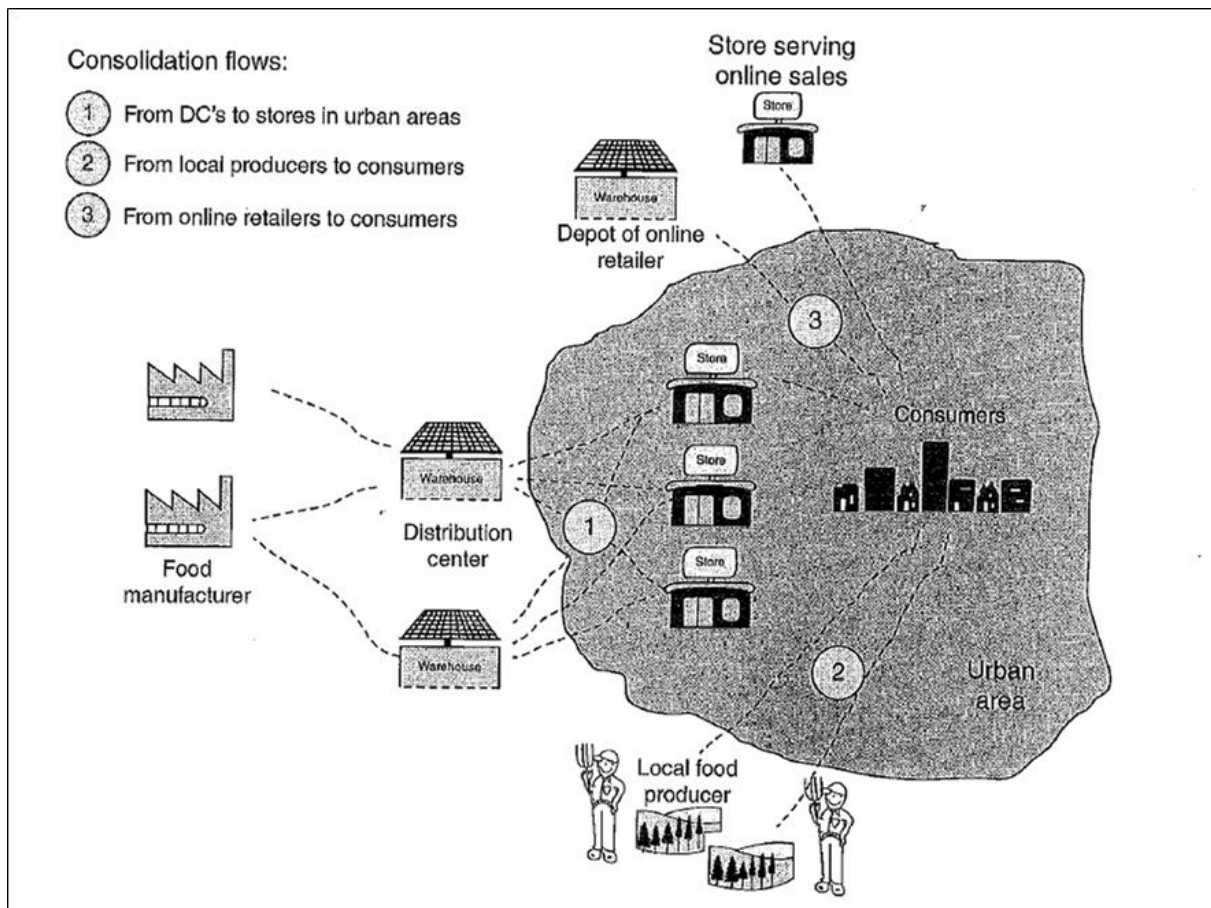


Figure 15. Consolidation flows in the three sectors of the urban food system (Pramatari, 2016)

Local food demand may impact large-scale farms but create opportunities for small-scale farms (Jarosz, 2008). The demand is usually driven by cities where the population has high levels of education and income.

#### 4.3.6 Physical context of the AFMs in Mexico

The REDAC maps (see Appendix section) show a higher density of local markets in the centre of the country, within and around Mexico City. There are several market members of the Network of Organic Tianguis located in the south of the territory comprising Mexico City (see Appendix section for maps), an area with more vegetation that provides ecosystem services to the population of the urban area.

The characteristics of the metropolitan area of Mexico City depicted by Romero and Chias (2000) consist of noticeable socio-economic and spatial segregation and were triggered by an accelerated demographic and territorial growth. These mechanisms also increased the dispersion of small and medium-sized commercial food structures and augmented in consequence the offer of services and alimentary products across the city. The metropolitan area of Mexico City has a heterogeneous system of food commercialisation where the traditional



and the modern ways of food commercialisation coexist. The traditional category includes tianguis, temporary markets called “mercados sobre ruedas”, public markets, commercial gatherings and government stores called Liconsa (formerly Conasupo). In the modern category there are supermarkets, convenience stores and hypermarkets.

The emergence of alternative farmers’ markets is related to the development of alternative food networks across Mexico, and vice versa. It depends upon regional and national ecological conditions and agrarian histories (Jarosz, 2008). The main characteristics of the local markets of Mexico City seem to be dependent on the area where they operate. The north of the city is industrial, whilst the south is semi-urban with representative regions of natural spaces, some with agricultural activities, while others are natural parks.

There have been contributions from different perspectives to the understanding on how the interactions within the short food supply chains have an effect in the development of sustainable food systems. The Platform of Organic Tianguis and Markets (Plataforma de Tianguis y Mercados Orgánicos), created in 2004 under the name of Mexican Network of Organic Markets (Red Mexicana de Mercados Orgánicos), has promoted the sustainability of food production among the producers and consumers in the local food markets of Mexico.

In the study of Escalona (2009), the following reasons are presented as a first approximation to the understanding of the processes taking place in the Organic Tianguis and Markets of Mexico:

- “The way of interaction among the producers and consumers determines the future of the organic tianguis or market initiative.
- The participative certification guarantees the ecological quality and promotes an additional perception of the production and consumption of ecological food.
- The existence of learning processes and knowledge exchange within the organic tianguis and markets.
- The presence of ecological food plays a role in the consolidation of the organic tianguis and markets.
- The production strategies of farmers and small producers as strengths for the organic tianguis and markets to contribute to a social agroecological change.
- The role of production and consumption of food in the “ecological tianguis” and markets and its relevance in the conservation of the biological and cultural diversity.

- Working as a network as a possibility to maximise the work of the “ecological tianguis” and markets towards a local sustainable development.
- The sum of efforts and ideals with other organisations as a priority.”

Parallels have been drawn on local food markets from Mexico and other countries. Studies have illustrated the positive impacts in the families of small producers; these are economic because they can sell their products directly to the consumers and social because their work is recognised as important and they gain access to a network of knowledge exchange with producers of different regions (Nigh and González Cabañas, 2015).

The local markets in urban areas represent a gathering point where people looking for a healthier diet meet local producers in venues where they offer and sell their products. In Mexico City, the new century has delivered an increasing number of places where this exchange can take place. Due to the geographical characteristics of the city surroundings, food can be grown within a relatively short distance from the local food markets and be offered on a recurrent basis. Most local food markets offer their products once per week, every weekend, but producers may take part in several venues to increase the exposition of their products to consumers. This makes the network of local food markets a mosaic of different kinds of AFNs.

#### 4.3.7 Alternative Food Markets in Mexico City

It is expected that population growth in Latin American countries will put additional stress on local food production, an activity that is key for their economies. It is estimated that the Mexican population will reach 164 million people by 2050 (INEGI, 2017). Despite having a strong traditional diet, Mexico is a country where fast food consumption has led to a severe problem of obesity, considered by some people as an epidemic linked to NAFTA (Siegel, 2016). The combination of a rapid increasing population and a bad diet make Mexico a place of high interest to study alternative food networks.

Population growth exerts pressure on food production, Mexico City has followed the increasing population trend of other Latin American cities in the last two centuries (Figure 16). The main processes that shaped Mexico City in the last three decades of the twentieth century were a new oil economy, globalisation (Hiernaux, 1999), new investments and economic opportunities (Satterthwaite, 2007). A city experiencing such growth should find alternatives to sustain the dietary needs of its inhabitants.

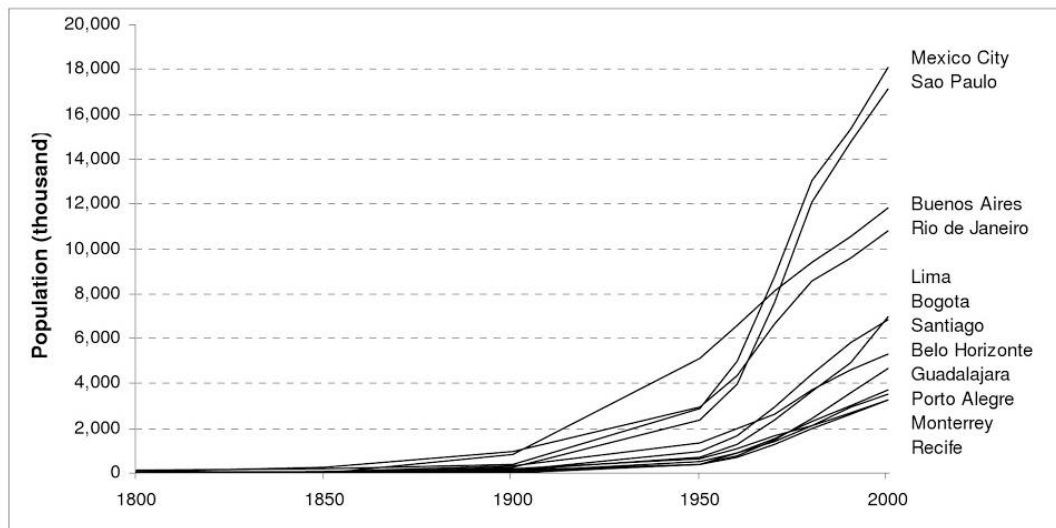


Figure 16. Population growth in the largest Latin American cities over two centuries (from Satterthwaite, 2007)

Food production in urban areas depends a lot on the geographical situation and resources. The aforementioned processes in Mexico City created a strong build-up area in the north, where a slower demographic growth and the regional relocation of industries produced a shift in the pattern of the urban structure (Taubenböck et al., 2008); in recent decades the surrounding states have also experienced growth, promoting the creation of a polynuclear megalopolis (Aguilar, 1999; Aguilar and Ward, 2003). This chaotic growth represents an important challenge in terms of food production and supply.

The territorial dynamics in Mexico City have promoted an intense debate on local food production due to the 59% of territory consisting of green areas that contribute to environmental services and are considered to mitigate climate change<sup>40</sup> (Figure 17) (SEDEMA, 2014).

<sup>40</sup> <http://data.sedema.cdmx.gob.mx/sedema/index.php/ciudad-verde>

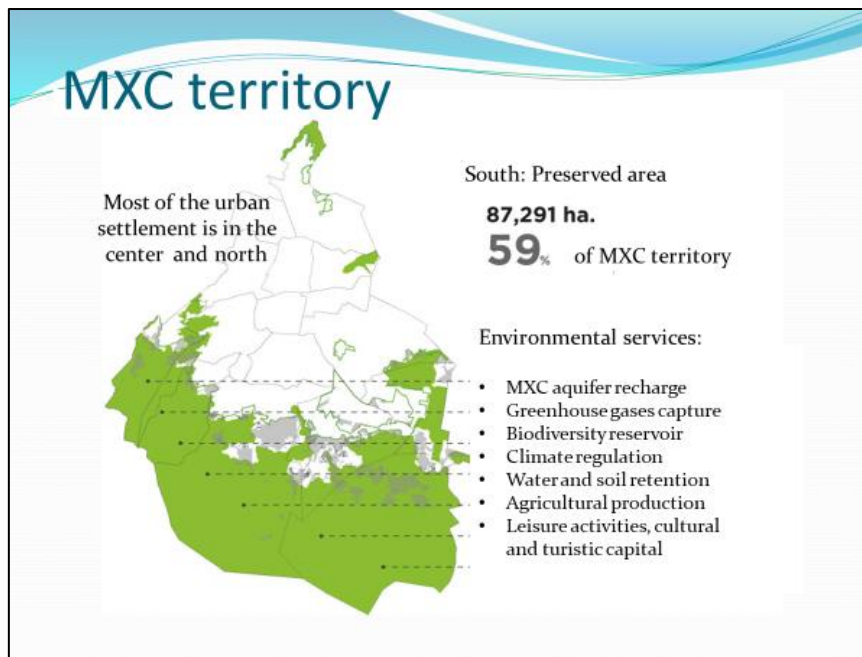


Figure 17. Green areas and environmental services in Mexico City (Sedema, 2014)

At the same time, it is the southern area of the city where agriculture takes place, mainly because the north of the territory has experienced more urbanisation (Taubenböck et al., 2008). Southern areas of the city are also under stress due to continuing urbanisation, if the agricultural land in these areas has been envisaged to sustain new settlements, the pressure on the ecosystem services may lead to irreversible damage of the urban system.

Mexico is well known for producing food and environment-friendly products are no exception. Nelson (2008), reported 83,000 people producing organically across more than 300,000 hectares, this is an equivalent of 1.6% of the agricultural land of Mexico. Of those producers, 98% work on a small scale, averaging three hectares worked, and more than 50% are indigenous people, but only 15% of the production is commercialised within the country; the local markets appear usually in or around urban areas (Nelson, et al., 2008). These facts represent an opportunity to work in the Mexican context and add to the discussion of alternative food supply in urban areas; the facts show a significant amount of people working in alternative ways of food production, a link between alternative small food producers and traditional knowledge, a proximity between production and urban areas, and the potential to increase the consumption of environmental-friendly products in Mexican cities.

The literature positions alternative food networks as one of the several sectors in urban food systems that can help the shift towards sustainability (James and Friel, 2015). These networks have been playing an important role in the supply of organic and fresh food from the urban and peri-urban areas into the cities, Mexico City is no exception. According to Jarosz (2008),

alternative food networks “emerge from political, cultural and historical processes” and their development in metropolitan areas is driven by urbanisation and rural restructuring, the dynamic evolution of these networks does not occur in the same way for all farmers. It is to be seen, how these assumptions take place in an urban area like Mexico City, where there is an intensive discussion on politics, culture and historical processes around food. Not to mention a country that has been heavily impacted in migration after decades of economic crisis, leading to the abandonment of several agricultural areas.

Alternative food Markets, lead the way in distribution of environmental-friendly food across Mexico, the AFM’s that are of interest to this project are strongly characterised by a vision to produce and sell nutritious and healthy food, although variations exist, and organic, alternative and traditional methods of food production are chosen, still what capabilities lead them to achieve it, is subject of research attention. AFMs appeared and have multiplied on a constant basis during the last 10 years in Mexico, this phenomenon according to Jarosz (2008), depends upon regional and national ecological conditions, and agrarian histories; in the case of Mexico City it is usually assumed that traditional techniques are involved in the production of food, but after the inclusion of supermarkets in the mid 1900’s, things changed. It is to be seen how AFM’s capabilities contribute to the preservation of those techniques and traditional food varieties, as well as why have these markets succeeded after a decade.

The case of Mexico gets interesting when it is seen that there is a higher density of local markets in the centre of the country, within and around Mexico City (average altitude of 2240 metres above sea level), and within they operate mostly in the central and southern areas (Figure 18), where conservation areas exist. This situation may be linked to effects from socio-economic and spatial segregation triggered by an accelerated demographic and territorial growth (Romero and Chias, 2000); these mechanisms also increased the dispersion of small and medium-sized commercial food structures and augmented in consequence the offer of services and alimentary products across the city. The metropolitan area of Mexico City has a heterogeneous system of food commercialisation where the traditional and the modern ways of food trade coexist, and where the role of AFM’s could be key to achieve sustainability and fight other social issues like poverty and marginalization.

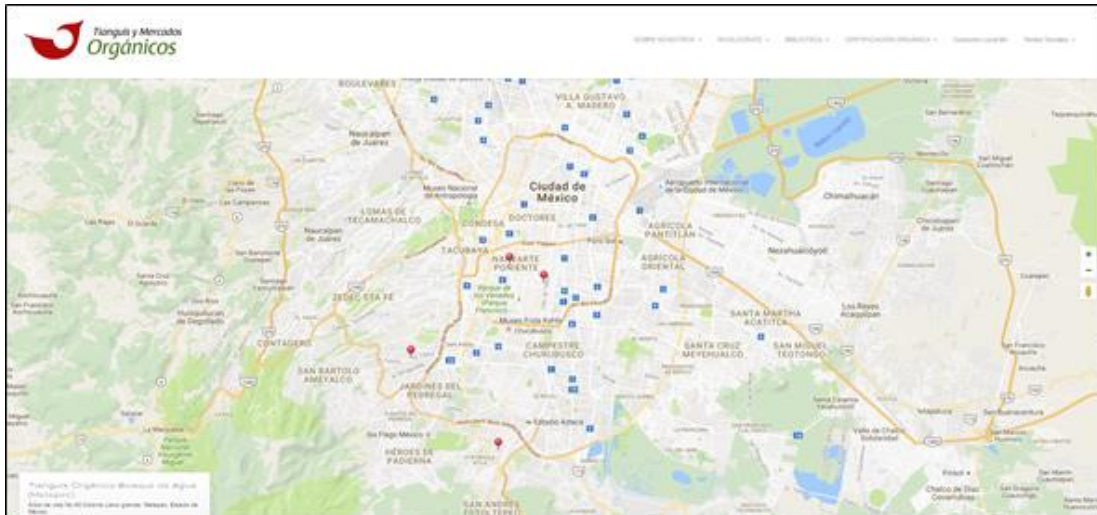


Figure 18. Local food markets of Members of the Platform of Organic Tianguis and Markets in Mexico City. Source: <http://tianguisorganicos.org.mx/>

The Mexican AFMs took the national market as a niche, after most Mexican organic food was destined to exports and can be considered as conventionalised or industrialised. The first case study or AFM01, is “alternative to the industrialised organic”. The second case study or AFM02, despite from being also a member of the REDAC Network, departs from organic certifications to open the possibility to other ways of food production (artisanal, traditional, agroecological), and should be understood as “alternative to organic certified”, however, the AFM02 does not restrict producers from having organic practices or certifications.

The goals and aims of AFM’s in Mexico reported by Nelson et al. (2008), can be considered the starting point of a series of features that could allow AFM’s to play a more important role in the food supply of an urban area (James and Friedel, 2015).

#### Goals:

- to secure learning from experiences among them,
- to create an environment of solidarity,
- to increase consumer trust,
- to create a space for the exchange of information on topics related to organic agriculture and
- to allow an increasing presence of the organic markets at a national level.

#### Aims:

- “To offer healthy food at fair prices.
- To provide spaces of commercialisation to responsible small producers.
- To announce the philosophy of the organic agriculture.
- To link the urban and rural population.

- To stimulate the local consumption of organic products.
- To promote the bio-cultural heritage of Mexico.
- To minimise the ecological impact in the commercialisation of food through the savings in transport, packaging and distribution of products.
- To offer spaces for getting together and the development of cultural activities and scientific divulgation”.

AFMs tend to have a holistic approach towards food production and supply, and vision towards sustainable practices. It is the aim of this research to study two alternative food markets, representative of the existing AFMs in Mexico City. In this sense, AFMs have the potential to contribute to the reconfiguration of the systems of production, distribution and consumption of food (Paül and McKenzie, 2013); the practices at the AFMs can reflect the values and structure of the producers that constitute the alternative food networks and enhance the cooperation of the actors along the food system, including the exchange of goods and information, leading to food security and sustainability. For food producers, it is purposeful to get recognition for their practices, so they can appreciate their contribution to the sustainability of food systems, whilst creating a regional identity and closer relationships with consumers.

In modern and future food systems, production and supply of AFMs will have to adapt to a dynamic environment, leading to new configurations of supply which are and will be under scrutiny by customers, governments and NGO's to find out if they promote sustainability (Faerne et al., 2001; Carter and Liane Easton, 2011).

## Conclusions

In this chapter, a more specific set of literature was used to put the research project in the context of Mexico and the context that set the emergence of the AFMs.

In recent decades, environmental and organic agriculture movements in developed countries set in motion the food “quality turn” that accompanied the diversification of food systems and witnessed the emergence of Alternative Food Networks (AFNs). This trend spread around the world and countries like Mexico entered the production of organic food focusing mainly on exports. In the light of challenges like obesity, climate change and urbanisation, a network of organic food markets emerged around the idea of offering healthier food to the larger portion of the Mexican population.

The rural development approach to study AFNs that started with (Renting, et al., 2003), evolved to include aspects of political and economic nature as stated by (Ilbery & Maye, 2015), this pattern repeated itself some years later in Mexico (see Chapter 4 for a more detailed

description), where the potential to create new policies to incorporate more small-scale producers into the national food production has reflected a notorious differentiation between industrialized producers and family farms, accounted and organised in Rural Economic Units (REUs). The Mexican Network of Organic Markets (REDAC), intended to coordinate the efforts of AFMs along the country to include small producers in the organic food production. From the perspective of rural development, Kneafsey (2010), identifies three features of ANFs, rescaling, respacing and reconnection. Rescaling brings governance back to the regional scale (Maye and Ilbery, 2007); respacing is related to the ecological efforts to modernize the food market, leading to conventionalization in some cases (Guthman, 2014); reconnection means that ANFs like the AFMs of Mexico City have the potential to contribute to all these features, with the additional possibility of promoting sustainability in the food system.

It was intended to show how small producers have been pushed several times in the last hundred years to find alternatives to the conventional corporation-made agricultural model, to earn a living applying the agricultural techniques they learned over generations, expressed as a series of bypasses. These bypasses can be seen as the drivers of change in the food system but sometimes cannot resist the pull from the market, leading to conventionalization.

There is evidence that in pre-Columbian times the societies of Mesoamerica were already stratified, and the division of activities benefited the local nobilities, who kept control wherever possible over the best agricultural lands, leaving a portion of the population to serve them. Nevertheless, the common cultural background that these cultures created became a point of resistance which was reinforced by the introduction of plants and animal species during the Spanish Conquest, shifting to a large-scale commerce of products that had nothing to do with the former diets. This shift continued the marginalization of small producers and landholders, who in the process kept their knowledge alive at small or local scale, leading to present day to an accumulated nostalgia and a sense of “making justice” after centuries, not to be mistaken by a moralised discourse. The armed conflicts of the 19<sup>th</sup> and 20<sup>th</sup> century did not prove to be the best outcome for them either, since the constitutional reforms proved to fall short of their promises. In the emergence of the Green Revolution of the mid-twentieth century the need of large irrigation systems and an increasing dependence on agrochemicals favoured the large landholders and marginalized even more the small ones.

Information on the challenges that small producers face at national level was presented from the perspective of government reports. It was summarized how small producers faced a wave of adversities led by the Green Revolution and how official incentives happen to never be



accessible to them. The people living in rural areas of Mexico represent a fifth of the total population, in rural areas almost a third of the jobs of the country are created, at a lower payment rate than in urban ones. It is in the rural areas where most of the food of the country is produced and where a balance between environment and people must be addressed first, it is where ecosystem services, history and culture have to be preserved.

The first category of the REUs produces food for self-consumption and can be alleged that they live outside the big agricultural production model. Categories 2 and 3, accounting for more than 50% of the REUs are in the scope of being conventionalized as much as possible, becoming monocultures of food varieties considered of high added value. A trend like this only perpetuates the ways of Green Revolution and paves the road for the New Green Revolution, despite current problems like climate change and health food related issues. Most of the small producers cannot afford to get a loan from the government, which is beyond the average income they get per REU. A lot of families have seen their sons leaving the work in the land to pursue better opportunities not just in cities, but in other countries, contributing to migration issues.

The scope of private loans promoted by the government for decades, has not helped small producers and has created two upper categories of REUs getting the main benefits of the conventional agricultural system. An agroecology-based strategy could provide higher yields if it is implemented properly, the benefits in health, combat to climate change and livelihoods could be considerable. Public policies that work in this direction are needed urgently, looking to increase the productivity in the fields using more of the already proven conventional techniques does not seem to go to help to solve the poverty in rural areas.

Being left aside, the small producers had to figure a bypass, which seemed possible when Mexico took part in the world organic production. The demand for organic products from countries of the Global North seemed to be a call for a better food system and Mexico, as other tropical countries, became a supplier but being historically shaped by subsequent intrusions, the large portion of organic production was shaped as more conventional than artisanal, or again, oriented towards a “global supermarket”, perhaps following a parallel with colonial times. Unfortunately, the production was basically destined to exports, which led them to the next bypass, a more localised organic food scheme. The Mexican Network of Organic Markets tried to achieve what the previous two did not, engage small producers in organic production, understood as a cleaner, more related to their family techniques.

Two things could be argued stating that the small food producers of Mexico have not been marginalized from the food production, in the first place the organic agriculture gained

momentum in the Southern States where the Green Revolution did not have a great presence and secondly, there are government programs and financing for the inclusion of family-based producers in the national agriculture. Nevertheless, these arguments lack substance in the light of data showing that the organic food production for exports has a series of frequently expensive requisites, like certifications, out of reach for the small producers and secondly, that over the years there has been a control of the large landholders and influence from external companies over the financing incentives, for some authors like Wright, keeping the small producers as servitude through intimidation (Wright, 1990).

As empirical evidence for these ideas, is the emergence of the Mexican Network of Organic Markets, that appeared with the intention to democratise organic food production, making it available and affordable to the Mexican people, including at the same time those producers that were left aside. But, as will be show in the following chapters, there have been different manifestations of these markets and not always the ideals meet the reality, specially under the pressures of the global food production.

Supporting the producers behind these techniques must become a priority, to perpetuate the conventional ways that intend to increase their productivity and access to the market are likely to become more of the same poverty traps they have face for at least one hundred years, such measures tend to concentrate power and monetary incentives in a few hands, creating few and bad job opportunities, creating isolation and interrupting the sharing processes of agricultural techniques that took thousands of years to be developed. In addition, small producers face problems related to social security, access to health services, making them vulnerable and stagnating in a low well-being situation.

In the next chapters I will present the results of the fieldwork of this project, starting with the emergence and main visions behind two Alternative Food Markets and the people who participate in them.

## Chapter 5. Alternative Food Market 01

### Introduction

This is the first of two empirical chapters of the AFMs of Mexico City. Section 5.1 presents the AFM01 Emergence; section 5.2 its practices and principles of the first case study of the research. Its purpose is to provide a glimpse into an Alternative Food Market that focuses on organic products.

As explained in Chapter 4, the REDAC Network was oriented towards organic small-scale agriculture, as an answer to the large-scale, industrialised organic food production for exports. The AFM01 can be considered a “organic as alternative” market.

### 5.1 Emergence of the AFM01

This section examines how the AFM01 emerged from a project of inhabitants from the State of Mexico<sup>41</sup>, who in 2006 started to grow their own organic food in urban orchards. This initiative became a non-profit civil association<sup>42</sup> with 6 organic markets that, by 2018, had a presence in five cities of three states: firstly emerging in Metepec and Toluca (State of Mexico); then creating branches in Querétaro City and Juriquilla (Querétaro State); and finally emerging in Mexico City. The AFM01, the first of this association in Mexico City founded in 2013, was inspired by those in the State of Mexico and Querétaro, bringing a reappréciation for small-scale farmers and organic food to the capital of the country. After a few years only, the AFM01 has become a landmark of organic food in central Mexico City. The producers selling at the AFM01 range from organic-artisanal to more entrepreneurial approaches, allowing to see the changing nature of alternative food production and distribution.

#### 5.1.1 From urban orchards to a three-state network

The origins of the AFM01 lie in agroecology and organic urban agriculture. It stemmed from an existing network of organic markets that started in the State of Mexico<sup>43</sup>. With a difference of almost seven years between the first organic market and the AFM01, it took some time for Mexico City to see organic markets, different from organic shops.

The AFM01 stemmed from a network of organic markets that originally started as a civil initiative to produce organic food in urban areas for self-consumption. In 2006, the founder, an

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<sup>41</sup> The State of Mexico is the largest state adjacent to Mexico City, almost surrounding it completely. It plays a vital role in the production and supply of food for the city.

<sup>42</sup> Spanish: “Asociación Civil”, commonly found as “A.C.”.

<sup>43</sup> Due to its location in the heart of the country, the State of Mexico has seen intense activity since pre-Columbian times, it has good connections by road, rail and air, and is one of the most industrialized states in the country. In relation to food, it devotes around 47 percent of land to agriculture and 15 percent to pasture, mostly to feed Mexico City (Standish, 2009).

agroecology engineer<sup>44</sup>, realized that most of the people she knew did not know the differences between organic and non-organic food or its benefits. Those who had an idea about organic produce usually had been in contact with someone or had experiences from other countries, but not within Mexico. So, she came up with the idea to teach local people how to grow their own food organically at home.

Around 2006, she organized a course for people from Metepec who were interested in growing their own food. The founder realized that the participants were acquiring a different perspective of food production like soil and seeds, resulting in requests to have more workshops. After some time, they realized that they were reaching a maximum production capacity with the urban orchards, which was not going to be enough to feed the families of the participants:

*“We started to train people in the creation of their own urban orchard, the participants were enthusiastic as they touched the soil and knew the seeds, after the first course they asked the next one and the next one... until they realized that the space of the urban orchard was not enough to feed their family.” -AFM01 founder*

After one year of intensive learning the founder had a clearer vision of what they were accomplishing with the workshops. The next step was to constitute a site to gather more products and engage with more producers. In 2007, they created their first organic *tianguis*:

*“It was how we created in 2007 our first Organic Tianguis. We were looking to create a healthy food space for us and the local people who had interest in organic foods, [having] as a principal value paying a fair price to the producers for their work and in that way being able to reactivate the peasant economies and promote the responsible consumption in the cities.” -AFM01 founder*

The founders of the first organic market continued to work to engage people around organic food and create awareness through conferences at universities, school and environmental fairs, radio, TV and local media. These activities kept shaping the identity of the markets and increased their visibility, and more people started to join them.

The work to teach people how to grow their own food continued and in 2013 they started to offer courses at larger scale. Led by their own specialists, they taught to small and medium size producers in topics of organic and agroecological production.

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<sup>44</sup> Spanish: “ingeniera en agroecología”.

The circumstantial origin and evolution of this market promoted the emergence of a network of actors in the food system that helped to promote change within it:

*“...I didn’t know I was going to shape a lifestyle, a change of paradigms and a vision towards sustainability, the ethics in human relations and the conservation of natural resources.” -AFM01 founder*

By promoting the interactions among actors of the food system, this civil association raised the interest of people from other communities, eventually leading to the creation of more branches in neighbour cities and finally reaching Mexico City.

*“...we conducted talks and workshops in the local schools and media with the aim of transmitting our ideal to more people. Step by step we saw the ‘tianguis’ project grow, we involved several universities and organizations and more people started to join.” - AFM01 founder*

After the first organic market in Metepec, the civil association opened another in Toluca, the capital of that state. In 2013, two new markets were founded, one in Querétaro City, another in Mexico City, conforming a network in three states (Figure 19)<sup>45</sup>. By 2018, they had two organic markets in the State of Mexico, two in Querétaro State and three in Mexico City (Figure 19). The region that encompasses this network of markets connects major areas with years of agricultural activity, since the early 18<sup>th</sup> century it has supplied food to Mexico City (Tutino, 2018). The rural development that can be promoted by networks like this, will be important for the future of food production and supply of the Megalopolis of central Mexico. The Bajío region<sup>46</sup> counts with excellent transportation routes to Mexico City and proximity to other major areas with important agricultural production towards the west, where most of the organic production for exports takes place. Having presence in the capital cities of the State of Mexico and Querétaro, speaks of a growing interest for organic markets in urban centres.

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<sup>45</sup> Formerly known as “Federal District”, after legislative reforms in 2016, the capital of the country is officially called “Mexico City”.

<sup>46</sup> The “Bajío” refers to the non-mountainous region comprising the states of Guanajuato, Querétaro, Aguascalientes, west Jalisco, north Michoacán and San Luis Potosí.

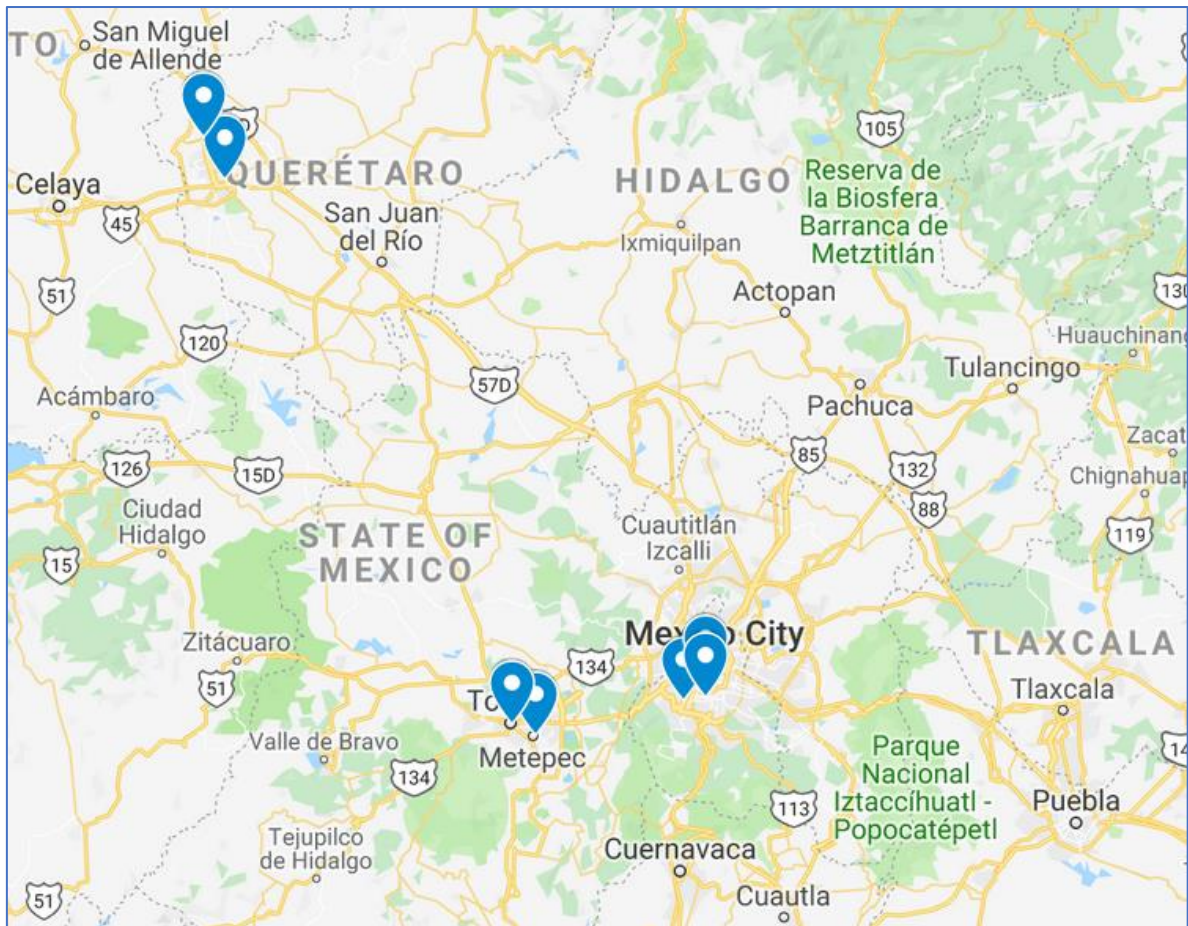


Figure 19. The civil association that created the AFM01 has presence in two states and the capital of the country.

### 5.1.2 Organic beginnings in MXC

The founder of the AFM01 civil association created new organic markets in nearby cities, first in Toluca in 2010, then in Querétaro City in 2013. Producers needed additional spaces to sell as the interest of the customers grew. The proximity between cities of the three-state network consolidated the role of the civil association in creation new sites of responsible production and consumption.

The experience accumulated by the organic markets caught the eye of consumers from Mexico City with an interest in organic products. The person who would organise the AFM01, realised that Mexico City already had organic food boutiques, but nothing like an organic market. She pitched her idea to the founder and by October 2013, the AFM01 opened in Mexico City. For the organizer, the beginnings were spontaneous, and in its first days, the market was an expansion of the networks from the original one in the State of Mexico:

*“It was actually more like an interest, right? Thinking that here [in Mexico City] we did not have those alternatives and [we were] looking for a place where we could find that*

*type of products. It was more like an interest from the point of view as a consumer. Like generating a space to be able to find that type of products [organic].” -AFM01 organiser*

The area where the AFM01 was established is centric, but in pre-Columbian times produced fruits, vegetables and flowers for the city of the Mexicas, Tenochtitlán. Being appreciated for its tranquillity and proximity to Mexico City, it became in the early XX century a neighbourhood for accommodated families. The rapid urbanization in the 1920s and 30s absorbed it and transformed it in a well-connected central location<sup>47</sup>, suitable for offices and businesses. It is also a neighbourhood where Catholic orders have built churches, schools and the building where the AFM01 started.

The building, a Catholic dispensary, plays an important role in the life of the community. It hosts cultural activities, provides medical care, medicines and food to families in need. Well known among the neighbours, its reputation secured an initial customer base and attendance to similar green roof orchard workshops that made the original organic market in Metepec engage people around organic food and succeed. The already tested bottom-up approach of the first markets was replicated and well received in Mexico City.

Organizing the AFM01 in Mexico City from zero, at a longer distance from the original ones, posed difficulties. The way the coordinator tells the story of the market shows a sense of accomplishment in the middle of uncertainty, particularly related to the ‘know how’ and the ‘conservative’ character of the neighborhood:

*“...the neighbourhood has never been known for being a very alternative area, on the contrary, right? It is more like conservative.” -AFM01 organiser*

By 2018, the AFM01 changed its location to the premises of a catholic secondary school, also in the Del Valle neighbourhood, showing that their presence in the area is valued and has worked for them in terms of connectivity and customers. It also speaks of a continuous partnership with the religious community of the area. It is worth mentioning that the other AFMs of the same civil association in Mexico City are not based in buildings with a religious context.

### 5.1.3 Participative certification

The REDAC Network played an active role in the development of laws and proceedings for organic products in Mexico, one of them is the Participative Certification (PC). In 2016, Dr. Rita Schwentesius, an academic from The University of Chapingo<sup>48</sup>, explained that, the REDAC

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<sup>47</sup> [www.coloniadelvalle.com.mx > historia](http://www.coloniadelvalle.com.mx/historia)

<sup>48</sup> One of the first organic markets in Mexico was created in the University of Chapingo premises, as a collaboration between academics and small-scale producers.

Network cannot be certified, instead, each tianguis or market must do it individually, undermining to some extent their potential as a national network<sup>49</sup>. Despite their work and participation in organic legislation, only three markets of the REDAC Network have gotten an organic certification. I found that the AFM01 promotes the Participative Certification, but only the main branch of their non-profit organization, in Toluca city, held an organic certification. At the branch of Mexico City, the AFM01, some vendors hold organic certifications besides PC. The additional certifications may be allowing them to position their products in different commercialisation channels and even export. As for the participative certification, it is defined by the market as their own “verification process”<sup>50</sup>, which from what I observed, gives them certain independence to accept vendors and allows them to differentiate themselves from other “boutique-like” organic shops that do not get involved in the food production process beyond the sales. In this sense, the PC may be a mechanism that is reconnecting producers and consumers, since the last ones can be a presential part of the PC at the production site. Additionally, the PC may be creating a differentiated certification mechanism within the boundaries of the AFM01 organization, meaning that if the vendors were only relying on it to sell their products, they would probably end up being limited to sell in that network only and deprive themselves from additional commercialisation channels, which could represent additional income and scaling-up.

The main objective of the participative certification that I could see was to make the organisers able to integrate vendors with similar visions and practices and can supply food to their network. This is particularly important for the three-state network of the AFM01, with branches in different cities. The process of finding the “right” vendors implies for the organisers a task of exploration and is subject every weekend to the nuances of the transportation of goods since traffic restrictions, demonstrations and other factors affect from time to time the entrances to Mexico City. The downside of this mechanism is that one finds repeated vendors in several AFMs leading to a relative saturation of alternatives in points of sale that ideally would be reaching to more small-scale producers without easy access to the food markets. An added situation of having a certification of their own is that the organisers can set their own vision of what “organic” is, bridging the gap with more common complaints and cases of people not offering real “organic” food. Goodman (2011), cites a legal case where governance efforts in the US have led to confusion among organic stakeholders on the suggested organic ingredients of food and what producers are actually putting in them, lowering the amount sometimes to a 5% of the

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<sup>49</sup> <https://www.youtube.com/watch?v=zeLpfjYwz7E>

<sup>50</sup> <http://bosquedeagua.blogspot.com/>



food. Whereas Dr. Schwentesius, has pointed at frauds in the organic markets<sup>51</sup>, that call themselves “alternative”, “ecological” or “natural”, just portraying a healthy image.

For Schwentesius, an issue with the government Guidelines for the Organic Operation from 2013 in Mexico, is that the document is a copy of an US Norm and in part of the European Union, trying to adapt it to the markets where the Mexican organic products are exported<sup>52</sup>. In addition to this perspective, the Mexican government incorporated, as in the US, an “organic seal” for certified food, probably to align with the export-import standards and regulations between the two countries, dating from NAFTA.

From the AFMs perspective, the idea of a certification occurs at local and regional level, it aims to reconnect producers and consumers and promoting trust and welfare<sup>53</sup>. It is intended to be a horizontal process where every person involved has the same level of responsibility and capacity to declare a food organic or not. In this sense, PC could be an enabler of trust and embeddedness.

I learned that the AFM01 was able to find the initial producers by looking at the wider network of organic markets of its civil association. In its first stages, the process of participative certification needed to send the questionnaires to the founder, who had the experience on certification and lived in another state. The process was slow, and some applicants did not continue with the application. By having a set of producers already certified, this association could swiftly open several branches in a three-state area. For the producers, having several markets as options, allowed for savings in transportation, shared risks and a more stable demand.

The organizer of the AFM01, describes the process as one of unfolding new complexities, finding out about the practices of the producers who wanted to be part of the AMF01 and their idea of what constituted as ‘organic’, then finding those whose products were really organic.

For Schwentesius, the process to be acknowledged as “organic” implies a lot of paperwork, bureaucracy and time, when authorities in charge of certifications validate conventional products so producers can re-label them and sell them for twice the price, sometimes they are contaminated with bacteria or pesticides.

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<sup>51</sup> <http://imagenagropecuaria.com/2018/el-mercado-organico-de-la-esperanza-al-fraude/>

<sup>52</sup> <http://imagenagropecuaria.com/2018/el-rescate-del-campo-mexicano-incluye-sector-organico/>

<sup>53</sup> <http://bosquedeagua.org.mx/certificacion/>

This poses a problem at different levels, first, the application of the official certification may be losing its essence leading to one of the main arguments against organic products, knowing if they are really organic or not. For (Zamilpa, et al., 2016), this is the biggest challenge for the certifying agencies of organic agriculture, at risk of “becoming economically perverted and lose their social and environmental objective”.

An additional layer of meaning for the application and success of the PC is what Schwentesius states as “a lot of psychology”, being an academic, she has found that some producers could improve their production techniques but need to be told in a very friendly and patient way<sup>54</sup>. This may suggest that the PC can become a two-way mean to exchange feedback and knowledge, but under the logical pressure of being or not accepted in the AFM.

As an instrument of governance, the PC could play a bigger role in incorporating more producers in case they need more preparation and adjustments in their production techniques. At the time of the fieldwork, in 2016, it was known that some producers from the Chapingo Organic Market did not meet the organic standards, which suggested more efforts of governance, Schwentesius confirmed that they opted for mounting their stalls outside that AFM to continue their operations. It suggests that the demand for “healthy” food constitutes an imaginary that creates demand by the consumers, but the production is not meeting the standards and the amounts needed. Another observation is that once the existence of a surplus for organic food is known, the term “organic” becomes a label to be allowed to charge more, not always meeting the standards.

#### 5.1.4 Cultural and educational activities at the AFM01

After the success of the urban orchard workshops, the organisers, producers and visitors of the AFM01 kept offering courses and encouraging people to produce their own food, in 2013 they started offering courses of organic production at larger scale. They taught to small and medium size producers in diverse topics of organic and agroecological production, led by their own specialists, who had agronomy backgrounds or learned through Participative Certification. This trend speaks of a food movement involving more people with different backgrounds and visions around food, keeping their organic vision. By increasing their interactions with other actors of the food system, the AFM01 civil association had an impact in several cities in central Mexico, leading to the creation two more branches in Mexico City since my fieldwork in 2016.

The AFM01 has a small restaurant where ingredients from the vendors are used to cook breakfasts and lunch dishes. The initial set up also included documentaries for people to watch

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<sup>54</sup> <https://www.youtube.com/watch?v=zeLpfjYwz7E>

during breakfast. The same area was used to host talks on organic composting, urban orchards and other related topics.

Cultural and education activities at this AFM are relevant for the exchange of knowledge around organic food, production practices. The activities around food involve members of the community, who do not just attend to buy products but to learn how to grow them. The emergence of AFMs in Mexico City coincided with other urban agriculture projects, like urban orchards, existing an opportunity for knowledge exchange and creation of synergies among participants.

The emergence of the AFM01 shows that the “alternative to industrialised organic” has the capacity to gather producers from a wide range of origins, although with different views on the “organic”. The projects that conform the case studies allow to position the alterity of the Mexican AFMs in the literature from the core capitalist economies. In the following sections I present key producers of the AFM01.

## 5.2 The female indigenous voice: a farming cooperative

One of the most representative group of producers at the AFM01 is a cooperative run by women from Temoaya. This town in the State of Mexico is well known for their artisanal tapestry, but also for issues on gender issues and poverty. The practices of this group are pivotal to understand the AFM01, consisting of ethnovarieties from their community that have merged with entrepreneurial ones.

### 5.2.1 Temoaya: context

Due to the urbanization experienced in the past twenty years, the suburbs of Mexico City reached the surrounding State of Mexico and it has become harder to see the dividing line between them. Due to its location in the heart of the country, the State of Mexico has seen intense activity since pre-Columbian times, it has good connections by road, rail and air, and is one of the most industrialized states in the country. In relation to food, it devotes around 47 percent of land to agriculture and 15 percent to pasture, mostly to feed Mexico City (Standish, 2009). Inequality goes hand in hand with the highest population of all the Mexican states, which has grown rapidly due to people arriving from other areas (Standish, 2009). The integration processes due to immigration have put pressure on the indigenous population over the years.

In the State of Mexico, the working options for women of indigenous origin are limited, living usually in poverty, they are considered vulnerable groups subject to work in adverse

circumstances far from their homes<sup>55</sup>. The government has implemented programmes to attend gender issues like young pregnancies and family violence, nevertheless the exercise of women's rights is still an ongoing process<sup>56</sup>.

The emergence of AFMs in this state seems to coincide with a historic trajectory of social debts and has become a part of the social discourse referred to as "the rescue of the farmland".

Evidence of indigenous food heritage is still present in Temoaya, members of the local communities meet at a tianguis every Sunday<sup>57</sup>, but unfortunately some of these venues have been subject to insecurity and corruption<sup>58</sup> as in other parts of the country. It is known that in some tianguis there is a fixed base of sellers that due to lack of new openings restrict the access to new ones. Despite holding the market on the streets, there are fees for sellers and the occasional ones, if accepted, are not exempt. This especially limits the access to small-scale or family-based producers who often walk around a tianguis with no more than a basket or two of product.

In Temoaya, in the conditions given by the context, a group of women have looked for alternatives to generate livelihoods.

### 5.2.2 From tapestries to food production

As in other communities of Mexico, despite adverse living conditions the craftsmanship of the people is still there, waiting for an opportunity. The people of Temoaya successfully produce cotton and wool carpets of international renown using traditional methods and have organized a cooperative around this business<sup>59</sup>. Cooperatives are commonly seen as a type of entrepreneurial activity with a social cause in Mexico. After the success of the tapestry one, a group of women created another one focused on traditional organic food.

The name of this cooperative is "Women Harvesting" (Spanish: "Mujeres Cosechando"), making a statement of the leadership they have taken in this enterprise. Before pioneering with the

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<sup>55</sup> An article from Women's Day 2013 in the Mexican newspaper "El Universal" identifies indigenous women from the State of Mexico as vulnerable "... indigenous, poor and woman, the three characteristics that identify one of the most unprotected and vulnerable groups in that state." (El Universal, 2013).

<sup>56</sup> <https://www.gob.mx/inpi/articulos/resultados-de-la-convocatoria-2019-de-fortalecimiento-para-el-ejercicio-de-derechos-de-las-mujeres-indigenas-y-afromexicanas>

<sup>57</sup> "Tianguis de Temoaya, una tradición del pueblo otomí para el mundo" <https://www.youtube.com/watch?v=2poyW0AHf2E>

<sup>58</sup> "Deputy breaks the law with a tianguis in Temoaya" <https://es-es.facebook.com/notes/tres-pm/diputado-apolinar-escobedo-viola-ley-con-tianguis-en-temoaya-acusan/10151237775864187/>

<sup>59</sup> "Sociedad Cooperativa de Artesanos Productores de Tapetes Anudados a Mano 'Santiago Temoaya', S.C.L." <http://www.tapetesdetemoaya.com/>

production of organic vegetables, they spent between 15 to 20 years in the tapestry business and selling handcraft in fairs at Mexico City's World Trade Centre.

The group of women diversified from tapestries to vegetable farming, despite being the former well-known nationwide and profitable. In 2009, a civil association called "Siembra" (Spanish for "Planting"), approached them. The association offers since 1999 social financing training to entrepreneurial women without access to formal banking. Their objectives are to create entrepreneurial opportunities for women and assist them to reach economic independence. In the website of "Siembra" <sup>60</sup>, it is stated that their financing comes from international organizations.

This opportunity allowed the women who had been working on artisanal tapestry for years to make another activity in their community, agriculture, a viable source of income thanks to the AFMs. "Siembra" offered them the possibility to build a greenhouse and sent an engineer to teach them how to cultivate, then the cooperative of women merged it with their own traditional knowledge to create a strong offer of organic food.

From the interview, it seems that having the training was a requisite to get the funding despite them having already knowledge on agriculture:

*"They assessed us to cultivate the vegetables, an organization called 'Siembra', they got us financing to build a green house. They sent an engineer to teach us how to prepare the soil, how to plant [...] now we work with the vegetables, I think we have been dedicating ourselves to it for seven or eight years.*

*It can't be said that someone 'taught' us how to farm, because in our community the people work in agriculture, but the vegetables they produced most were maize, wheat, beans, broad beans, and some potatoes." -Victoria, AFM01*

Moving from local food varieties to others that grow in greenhouses, implied additional labour and adding new practices to those they already knew.

After some time, they built a bigger greenhouse of their own. Being able to organise themselves to produce organic food opened the door to sell at the AFM01 and has put them in a better position to prosper:

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<sup>60</sup> <http://www.oocities.org/siembramexico/>

*“We have achieved to organise ourselves and work as a team so we can cultivate healthier foods.*

*We joined in 2009 with only a few of organic vegetables, during these years we have cultivated a greater variety of fruits and vegetables produced without chemicals and in an artisanal way.<sup>61</sup>” -Victoria, AFM01*

For the Women of Temoaya, to be “organic” means to produce free of chemicals using their own knowledge at small-scale. The gained confidence and experience have allowed them to build a bigger greenhouse of their own to expand the assortment vegetables in addition to fruits and prepared food. In this sense, the AFM01 opened the door to projects like theirs to a wider audience, constituting a channel of knowledge exchange that motivated producers to improve. By revalorising their labour and knowledge, the effect on motivation can be seen in the ways they improve and grow their projects.

### 5.2.3 Practices and principles: the hard work behind small-scale organic agriculture

The artisanal making of tapestries suggests hard work, however, from the group of women who started with the greenhouse only 6 remained. This speaks of the hard work in organic traditional, small-scale farming:

*“When we started with the greenhouse, we were fifteen, but some left slowly, six of us remained.” -Victoria, AFM01*

The labour of the organic traditional farming they practice is hard, starting early and consuming the whole day. It is very different to mechanised agriculture:

*“Sometimes we start working at eight, seven in the morning and we end up leaving sometimes at five or 6 in the evening.*

*It is heavy to work the land, because it implies using a hoe. It is not the same as in other cases, where... it is easier to enter with the tractor. And we do not do that, we do everything by hand that is why it is heavier.” -Victoria, AFM01*

Not having a tractor may be a matter of choice, but it becomes clearer why they do it by hand as the interview inquired deeper into their practices. In the first place, doing what they do at a larger scale would be difficult. This added value of organic, artisanal, traditional farming is also valued by the consumers of the AFM01, who practically buy everything from the Women of Temoaya by midday.

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<sup>61</sup> <http://bosquedeagua.org.mx/pd-mujerescosechando/>

Their labour was better appreciated after becoming part of the AFM01. Formerly, they used to sell at their communities:

*“At the beginning it was complicated, because we used to sell in our community, but we prepare our compost and it is so tiring for selling it cheap and in our community that’s what the people are used to. For example, down there they offer three lettuces for ten pesos, but they have almost gone bad and what we harvest... since we don’t add any chemicals or similar things, they last longer, the lettuces, or any other vegetable.” - Victoria, AFM01*

Selling at their community represents a different income, since the labour does not translate into a fairer price. Local people are used to grow their own products for self-consumption and will not probably pay too much attention to practices like compost preparation. In contrast, for city dwellers all this represents a “wow factor” and are willing to include it in the value of the products. It could be argued that the disconnection between countryside and the city also reflects on the value attached to food, sometimes taking it for granted. A final remark on this excerpt is the observation on food quality and how long it lasts, small-scale producers take their products on the same day they were harvested, arriving fresh to the AFM.

#### *Seeds: Taking care of biodiversity*

As in other parts of Mexico, the indigenous knowledge at the community of Temoaya has taught people to keep their own stock of seeds to continue growing. After a comparison, they realised that seeds coming from northern states, more industrialised and conventionalised, do not have the same quality:

*“The seeds we have can last many years, it’s not like others we have seen that come from the north of the country, they get contaminated with weevil and don’t last. That seed has like a small hole inside. Our seed can be stored for one, two years and stays as new. We keep our seeds and that’s the one we plant. All of our seeds are ours, beans, broad beans, we always put aside the seeds we use for planting. We already knew how to take care of them.” -Victoria, AFM01*

This speaks of the efforts made in small communities of farmers to preserve seeds of varieties better adapted to their ecosystems, contributing to the conservation of the local agrobiodiversity. The unpaid work behind seeds selection and preservation is often taken for granted and in worse occasions, subject to biopiracy. Community-based knowledge that small farmers preserve by practicing it, allows them to differentiate between the quality of their own seeds and others.

### *From a daily diet to the AFM01*

The main foods that the women of Temoaya sell have been traditionally produced and eaten in their community. These are mainly based on maize and are probably one of the highlights at their stall:

*“It is our daily diet down there in our community, it could be said that we always eat tortillas or tlacoyos, sopes and all that, also tamales and some vegetables, for example, in our community we have always produced chard. Only the cucumber and the tomato are the vegetables we thought we could not produce, because they are more delicate to grow.” -Victoria, AFM01*

The success of maize-based products is probably the connection that the customers make with the rural context of the Women of Temoaya and the imaginaries around traditional Mexican food. During my fieldwork, I observed that the attendants to the AFMs in Mexico City somehow expect part of the folklore and exotic food from other states in the country. An important factor to consider not just at the AFMs is that the products that people are accustomed to eating in rural Mexico differ from those found in cities<sup>62</sup>. The addition of vegetables that need greenhouses like cucumbers and tomatoes speak of the addition of varieties that are frequently requested by consumers at the markets. The diversification of planted food varieties allows small-scale producers to increase their income by working the same land area.

For the Women of Temoaya, their maize-based diet is also related to the care of the maize varieties and is a pillar of the diet in their communities, where they eat maize derived products, “tortillas, tlacoyos, tamales, sopes”, that can be thought as bread-like products and serve as wrapping to be filled with other foods:

*“We grow the white maize, also the blue, the pink that is like red and the yellow.*

*We sell what we eat in our community, tortillas, tlacoyos, tamales, sopes...” -Victoria, AFM01*

By keeping their traditional diets, communities like Temoaya help to preserve the biodiversity of a country and its nutritional value in their diets, that after reaching the AFMs are shared to a

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<sup>62</sup> An interesting testimony of this is given by the late artist Francisco Toledo, in an interview he tells how he saw for the first-time carrots and other vegetables in Oaxaca City the capital of the state, while the people from his community mostly ate local seafood. This speaks of a strong tie between people from rural areas and the food that has been eaten in their areas, but also of some restrictions on the diets and their availability beyond the region in question. The inclusion of new food varieties in the production of rural communities implies a certain degree of conventionalisation too.



wider audience. This phenomenon is not seen in large-scale producers, who usually buy seeds and plant in monocultures as a function of food demand.

Vegetables are popular at the stall, but traditional prepared food like tamales have earned them a reputation. According to their testimonies, the way they make tamales is healthier:

*“Almost all the vegetables are popular, but the consumers also ask a lot for tamales, they usually have lard but the ones we prepare don’t. That’s also why we have become famous [laughs].*

*We prepare only vegetable tamales, no meat ones. For example, we fill them with chard, with mushrooms as if they were shredded chicken, it’s a plus... also with pumpkins, also beans. The same things we harvest.” -Victoria, AFM01*

Tamales are found in all the Mexican territory with regional variations. The ones cooked by the women of Temoaya project part of their daily diet and have adapted to the palates of the customers, who seen in them a healthier variant of a tamal. Using cooking ingredients that they produce is also characteristic of small-scale producers and is a characteristic found in some of them along the AFMs.

Preserving food, like quelites<sup>63</sup>, allows them to store it and have a source of fibre, vitamins and minerals. They can be preserved, a way to have a nutritious diet available all the time:

*“The products are almost always seasonal, except the quelites that when there is a frost, they dry a bit. When we see a frost coming, we put the quelites to dry and when there are no more outside, we put them to soak and they are green again, as if they had been cut the day before.” -Victoria, AFM01*

Edible plants like quelites are not typically found in supermarkets, being able how to preserve them is useful knowledge for inhabitants of cities.

#### *Adapting to climate*

The women of this cooperative feared that more delicate vegetables could not be produced in their community, due to the cold weather:

*“The area where we live is cold, we thought that tomatoes, cucumbers that are delicate, and the pumpkins a little bit too, couldn’t be produced. But no, we confirmed that they can be produced very well.*

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<sup>63</sup>. The word “quelites” comes from the Náhuatl “quilitil”, used in Mesoamerica to designate plants with edible leaves.

*We used to think that those [products] had to be produced in a warmer area or in greenhouses, but even outside, where we have family orchards, they also grow very well.” -Victoria, AFM01*

As mentioned in previous paragraphs, the initial funding and eventual arrival at the AFM helped them to get recognition for their knowledge and labour, allowing them to expand their food offer not just to prepared food, but also to varieties that combined improve their income.

To sustain the production of the products they take to the AFM01, the Women of Temoaya have built backyard orchards and in the case of the food varieties that are not endemic to their region, like tomatoes, they built small greenhouses:

*“All of us have our own backyard orchards with vegetables, chicken, ‘nopales’ (prickly pear), and aromatic herbs. We also have our own ‘milpas’ of white and yellow maize, which we use to make ‘tlacoyos’, ‘tamales’, ‘sopes’ and ‘tortillas’.” - Victoria, AFM01*

#### *Natural insecticides*

As mentioned before, the women of Temoaya already had agricultural knowledge, producing mainly for subsistence. This practice was taken to the rest of their production even after getting training, leading to the creation of environmentally friendly solutions for issues that in industrial agriculture require chemicals.

The women of Temoaya think that despite the good intentions of the agronomic engineers that went to their communities to train them, they tended to use more chemicals, whereas they learned how to make their own natural insecticides:

*“Yes, we had some knowledge. The engineers have studied, but they are more on the chemical side, for example, if a plague hits... they easily use some chemical and we don’t. We keep the plants [safe] from plagues with our natural insecticides.” - Victoria, AFM01*

When asked if they learned to make the natural insecticides themselves, they refer to a learning process that involves practice, experimentation and learning:

*“Yes, we keep practising among us, and we learn... we add this and that, and we try out to see the results.” - Victoria, AFM01*

The opportunity that the women from Temoaya had to be part of an AFM was taken seriously and they have delivered more than food, adding their local knowledge of food varieties and recipes. The products they offer enrich the diet of city dwellers who usually do not have access to them through more conventional channels. In addition, the practices they keep at their place

of origin, like traditional ways to select the seeds and innovation in the use of natural insecticides are important for alternative food movements that try to go beyond market-based approaches, whilst unexpectedly bringing to the city practices from small-scale producers that otherwise would be unknown. Projects like the one of the women from Temoaya is key to address issues of inclusion, gender and prejudice towards indigenous food knowledge.

### 5.3 Biodiversity and landscape restoration

The projects of the AFM01 have extended networks outside Mexico City. The section presents the case of a Foundation based in Querétaro that has worked in restoring the landscape and biodiversity of its locality. Its location allows them to supply fresh food to the organic markets of the civil association and teach about organic production. I had the luck to be welcomed by the owner of the Foundation and have a tour of the area.

#### 5.3.1 Economic and production regions

The economic geography of the first half of the early 20<sup>th</sup> century divided the Mexican territory in economic zones that encompassed groups of states with similar evolution trajectories and characteristics. This effort did not take into consideration the historic characteristics of those areas or even previous regions that had existed since pre-Columbian times<sup>64</sup>. The result was not always the best, as stated by Leonardo, an entrepreneur who started a Foundation that works towards the training and empowerment of farmers in regions where they have been affected by the abandonment of the countryside. He also organises the collection of fresh products and takes them to the AFM01. His vision of the way the production works in the northern area of influence of the AFM01 association is privileged. Due to the location of his ranch, he can easily provide products to the AFMs of Querétaro, the State of Mexico and Mexico City.

As a part of the rural imaginary of Mexico, one would think of a rich biodiverse landscape. At my arrival, I could see a landscape lacking trees, only some grass could be seen. For the untrained eye, this could represent nature, but for local people there is a precedent of a vast forest that was depleted for economic ventures almost one hundred years ago.

Besides the fragmentation of production territories due to political boundaries, Leonardo pointed at the restricted productive capabilities of the indigenous communities, who have been trapped by a number of government incentives, whilst the *rancheros*, people who arrived decades ago from other countries, have compensated their limitations of knowledge with a proactive attitude towards organic innovation. For Leonardo, it is the *rancheros* who have

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<sup>64</sup> Back in Colonial times, the country was divided in “republics” which had relative sovereignty and opted to transform the landscape radically depending on the demand of products that emerged due to different social reasons (Tutino, 2018).

adapted faster to organic production and can help sooner to food supply. However, the ranchers seem to be trapped between large demand of food for exports and their own production capacity. If they do not fulfil the growing demand, they often go back to conventional agriculture. From his description I observe a trade-off, indigenous communities support biodiversity whilst the ranchers most of the production. Somewhere in the middle, projects like Leonardo's work to make the best of both approaches.

In this region, small-scale producers seem to be in the process to grow, like their large-scale neighbours from Michoacán state. A person like Leonardo helps the small-scale farmers of the limits between Querétaro and Michoacán to create a new way of income in organic food and to find distribution channels to get their products to venues like the AFMs.

### 5.3.2 Landscape restoration and edible orchards

The fragmentation of productive regions and the exploitation of existing forests are not the only drivers behind the depleted landscape around Leonardo's ranch. Agricultural techniques not suitable for the ecosystem were adopted by families of farmers who imitated their landlords, using agrochemicals. This was introduced during the 20<sup>th</sup> century but still exist despite lower yields and adverse health effects. According to Leonardo, local people also introduced livestock and other cultivars in an unsuitable terrain, leading to a desolated landscape.

The ranch of Leonardo is a living example of how to do business in organic production while teaching others and empowering them to make the best of Alternative Food Networks. His work reaches other alternative networks, taking place in fairs and events around organic or local food. After years of work, he has increased the number of products and has branded them. He sells fruits, vegetables, cheese, marmalades, as well as seeds, prepared soil and trees for those who want to learn at the workshops of the AFM01 (Figure 20). He also drives around to neighbour producers to ask if they have products to take to the AFMs. By doing this, he is creating a bridge between the countryside and the cities and making both sides visible to the others. In the case of producers, they are motivated to have their products offered in places where they pay is fair.



Figure 20. Leonardo' products at the Maize Fair in Amealco

Leonardo has built a functional balance in his ranch through a series of hybrid agroecological practices. At his property, he is recovering the biological complexity and water retention that it once had as a forest. At a landscape scale, his ranch is a benchmark for others who pursuit a more sustainable way to produce food. By sharing practices, then taking advantage of the alternative channels of food supply, the producers of that area share knowledge, risks and benefits.

Leonardo's work was restored the landscape, the socio-economic fabric of the community and the ecosystem (Figure 21):

*“All this was my ranch... we have been working in the restoration of this area... in the end we were interested in creating jobs, this [project] is creating a lot of work, as well as recovering the production capacity. We have introduced three thousand fruit trees, and, in the end, everyone is in charge of their piece of land. It has worked for us.” -Leonardo, AFM01*



*Figure 21. Edible orchard in development.*

The introduction of fruit trees is an ongoing project to create an edible orchard and enhance the water retention capacity of the land. It was not easy at first due to the eroded soil, that left stones exposed at the surface. By removing them, the same terrain can function for water retention:

*“Here for example, we removed all the stone to have enough capacity of water catchment, we built this fence that more to serve as a perimeter is to prevent the erosion, in this area we had a gigantic erosion. I have photos of last year here... waterfalls of brown water going down, jumping the road and destroying... throwing trees, it was chaos. And now working with the regenerative orchards we have stopped that.*

*Over there, the whole ranch, you can see all the regeneration of the soil, there was no soil anymore... there was nothing, it was only stones. There was not even a layer of organic matter or a fertile layer, that is, [we are working to] to recover 100% fertility.” - Leonardo, AFM01*

For Leonardo, water plays a key role in changing the landscape. When water from rainfall flows freely it removes organic matter, as the flows of sludge move to larger water bodies, the damage increases:

*“This land last year launched hundreds of tons of sludge, which had organic matter, the productive potential. Besides, those tons of sludge can in other terrains, that are not already worked like here, saturate the basins, saturate the rivers, the banks, the dams*

*and they generate problems of environmental disasters like the ones we see. Floods, mudslides, river floods because the beds no longer ... no longer have enough capacity, then what we do here right now with this orchard was to take advantage of topography. Why? Because there was nothing [before that].” -Leonardo, AFM01*

Leonardo is aware of bad decisions made in the past that are still visible today. Leonardo can tell what went wrong in the area where his ranch is located (Figure 22):

*“If you see here, this land measures 30,000 [square] meters ... there are one, two, three, four ... four trees [only]. This is due to bad decisions in the past.” -Leonardo, AFM01*



*Figure 22. Changing the topography to retain water and organic matter*

Leonardo’ ranch is a case of proactive change of the agroecosystem, his efforts are focused towards productivity by restoring ecosystem services (Figure 22). For me, a new world of details, not visible from the AFM01, emerges as he describes his work:

*“These lands didn’t even have a gram of productivity, now they’re going to produce biomass. Over here, we have [planted] brewing barley because we are going to put our microbrewery... fruits in about 3-4 years, you produce water because it sounds like a lie, but let’s go up here. During the downpours that we have had... before the water left the land in 1 hour, 2 hours, 3 hours right? Now what we do is to hold it in the ground for months and in the end it’s a water source, because it is slowly filtering and makes the streams to have water the whole year and that water reaches the Chapala basin..” - Leonardo, AFM01*

He describes changes that are visible after a few years of work, after decades of erosion and inadequate farming practices. The practices and principles that he has put into motion at his ranch constitute a node of change in the region, that start to become visible by selling at the AFMs.



*Figure 23. Creating levels to retain water*

After 8 years of working his ranch, Leonardo knows exactly what he needs to manage the water from precipitation. He keeps describing the changes they have made to contain the water and use it to recharge the underground sources. I see a huge pond that is fed continuously with rainwater (Figure 23).

*“We are transforming it from a land that did not produce anything to a fairly efficient production system. “–Leonardo, AFM01*

Leonardo’s approach challenges the existing functional agriculture strategy in rural Mexico. As described by Wright (1990), it consists of agronomists executing government plans without further interaction and cooperation with the local communities, with the additional consequences of incentives conditioning, monopolisation by larger producers, oppression and almost slavery for the small ones and a range of other dark practices. As Bustamante and Schwentesius (2018) propose, it is in the interest of organic agriculture organizations to promote the local markets as a way to improve the whole food system and in a way, rescue small-scale producers from all the mentioned practices.

### 5.3.3 Small-scale producers shifting to organic production

According to the historical accounts of (Tutino, 2018), several areas that were involved in the production of cultivars for the Colonial globe trade in the 17<sup>th</sup> century, began to shift towards



more local ones, like maize, in particular in what is called the “heartland” of Mexico, or the “Bajío”<sup>65</sup>. Leonardo refers to the processes of adaptation that the newcomers had to face and how it has been going on since then, making ranchers in his opinion, a highly adaptative group that can migrate towards organic production in an entrepreneurial way:

*“Rancher communities did not exist, they arrived with zero knowledge, they adapted some local knowledge but have not had great sustainable techniques. However, they are very open to changing these techniques because they have a lot of entrepreneurial orientation, they are ... entrepreneurs, so when you show them and do with them techniques that will save them money, that are going to create profits ... well ... they adopt them, very quick ... they apply them, and they improve them. We have many examples.” -Leonardo, AFM01*

According to Leonardo, the profit-oriented mentality of the ranchers has allowed them to adapt to changes and opens the possibility for them to see the benefits of organic agriculture. By joining efforts, they are restoring the landscape and becoming an active part of a new local economy based on organic production.

Leonardo gave me a quick tour of the area, pointing at its origins as a forest, its depletion for profit 100 years ago and its transformation due to the local people imitating the landlords in the inception of the use of agrochemicals (Figure 24). At the very end of the network we met Mr. Jacinto, a rancher with a rustic charming cottage in the middle of the grasses. Mr. Jacinto has started with the organic production but as an experiment, hoping for higher demand to take it as his main source of income. He lives in the same land where his ancestors arrived more than 100 years ago, he shared the story of a sepulchre of his family where large bones were found, suggesting for him that those people must have come from countries to the North.

The beginnings of Mr. Jacinto in the organic production happened by word of mouth around 2011, he started producing mushrooms in a shade adjacent to his cabin. He accepts that the organic production has a lot of problems he does not dare to use the main variety of mushrooms because it has many problems to be cultivated. At the time of the fieldwork, Mr. Jacinto was selling only through two people, Leonardo and another person in the plaza of Amealco. On his own, he could not position his mushrooms and relies on the two other men to sell them in the right venues.

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<sup>65</sup> A territory comprising several states that runs north from Mexico City between the two main mountain chains of the country



Figure 24. Formerly a forest, this area is now trying to produce organically (Amealco, Qro.)

He states that people do not know yet very well his product (Figure 25), otherwise the consumption could be higher:

*“The trade is very low, this mushroom, the people really do not know it and it is a better quality one, it is practically clean. Because this one, of chemicals, has nothing.” -Jacinto, AFM01*

The words of Mr. Jacinto bring back one of the early meanings of “organic” as food without chemicals. His farm is destined to other agricultural activities for self-subsistence, as with other farmers, he used the “milpa” mainly for maize production:

*“It is a bit more difficult there, more expensive to remove the herbs. I just talked to someone else, if the maize price were higher, it could work, but right now, nothing like it. The really organic is interesting for us, but unfortunately it is very difficult to change. The problem is that we are in a zone with few people, the product could not be sold, it would always be necessary to take it somewhere outside. Let’s say Querétaro, San Juan, some places, but in a way that one could really know that the commercialization is certain. Because one can make everything organic, but in the end, there is nobody to buy it. And then you would end up investing a lot.” -Jacinto, AFM01*



*Figure 25. Organically grown mushrooms (Amealco, Qro.)*

The transportation, as with many other producers, is an issue to reach places where the organic products could be sold. Leonardo, who drives around the local farms asking for products, estimates the amount of food he takes every time to Querétaro city to make the trip worth:

*“We go to Querétaro City, sometimes we take 10, 15, 20 kilograms, but because we take many other products, if not, going up there would not be worth even the cost of the trip.”*

*-Jacinto, AFM01*

This situation has been referred to me in more than one occasion and is affecting not only the producers of food nearby the city, but the artisans of handcraft that rely on sales to keep traditional techniques alive. As soon as the people from the cities, where the income and demand for food are greater, begin to be engaged with the agricultural activities and ways to symbolically engage with food in the rural areas, a change in the food systems sounds more plausible. As (Zamilpa, et al., 2016), put it, food in the alternative agriculture represents “goods and services derived from natural and human processes, that deserve respect and special dignity.”. For this purpose, the AFMs are ideal.

Section 5.4 presented the case of Leonardo, and his efforts through his Foundation to bring life back to rural communities where conventionalisation has left not just a changed landscape, but communities in the process of forgetting their own agricultural practices and keeping others that are not being what they expected. The town where his ranch is located has needed hard

work in the creation of water retention and an edible forest, two projects that will change the face of this area in years to come.

#### 5.3.4 The changing nature of the “organic”

For Leonardo, the problem of the organic production lies in the fast-growing demand that cannot be met by the productive capacity of small-scale producers. In general, he perceives a tension between the fashion of the organic products, the capacity of producers to cover the growing demand and the effect it has on the regulations. Where no regulations exist, there is a risk that the food is not actually organic, leading to other food markets with different denominations but not guaranteeing the quality of their products:

*“Yes, there is a boom, but we return to the same thing. There is an excessive demand that does not wait for you to do everything necessary to supply it and also makes the logistics super complicated to make it viable for a producer to say ‘ok, it doesn’t matter, for a year I will not sell roses and I will be in that process of learning and adapting to the market process”. I mean, there is no scheme that is going to let you to waste your time in one matter [keep producing roses] or waste time on the other [adapting to the organic market].*

*In other words, the market wants it [the organic product] ‘now!’. And the market wants it good, nice, cheap and organic, but without caring of where it comes from, that is why it gives rise to so many bad managements that has been done lately by so many little markets claiming to be “organic” or “natural”.” -Leonardo, AFM01*

During my visit, we had the opportunity to look at greenhouses that produced among others, organic tomatoes (Figure 26). But unfortunately, we also visited similar ones that went back to conventional production due to a lack of capacity to fulfil the demand.



*Figure 26. Tomato production in a greenhouse near Amealco, Qro.*

As already mentioned, (Zamilpa, et al., 2016, p. 24) consider that this happens in Mexico even with a regulation, pointing at the dilemma of certification agencies to adhere to their social and environmental mission, an objective that for the same authors may look difficult in countries where the moral and legal parameters tend to blend easier than in countries where the honesty of the producers is different:

*“...if the production of organic cultivars is done for mere economic interests, it is too tempting to put a different label to a product to give it a surplus without deserving it.” - Leonardo, AFM01*

Leonardo has worked towards the training in organic techniques and he coincides with the organizer of the AFM01 in the division that caused some markets to stay “organic” and others that have called themselves something else. Regarding the Law of Organics, he expresses that the next step would be to apply it:

*“Yes, it came out, but it's like everything, right? That is, the public policy is made, but the execution is not. Yes, it forbids people to call it “organic”, so that's why they're introducing new terms like artisan, natural, local... and people seem to be already identifying..., for example, the local term with organic, they say “it's probably organic”, and well...” -Leonardo, AFM01*

For Leonardo, the organic production is by no means limited to the restriction of chemicals, it has to go beyond and make changes at the production site:

*“So, when you talk about organic or ecological production, it has to be a production in balance, not just the fact of not producing with chemicals, but everything that it entails, all regenerative agriculture is part of the production.” -Leonardo, AFM01*

Despite the presence of several producers in the AFM01 with additional certifications to the participatory certification, it is impossible not to raise the question of how “organic” an AFM is without an official organic certification. In the other hand, the legal holes that authors like (Goodman, et al., 2011) have detected in the US are happening in Mexico too, due to similar reasons but also because of the limited governance among the existing AFMs. Since the REDAC could not legally get the organic certification, it is safe to assume that it could not encourage enough its members to adopt the same organic standards that reached the IFOAM guidelines and also the Law of Organic Products in Mexico. In Chapter 6, I will present the case of an AFM that is not organic assuming instead an “alternative” stance.

#### 5.4 The entrepreneurial nature of the “organic”

The AFM01 gathers different visions under the organic umbrella. In this section, I present contrasting approaches around one idea: the first on local versus introduced superfoods; the second about organic as profit; and the third on distance and reconnection. Plurality is important in food movements; however, trendiness can lead to conventionalisation.

##### 5.4.1 Traditional meets trendy: superfoods

At the AFM01 one can find two products known as superfoods: quelites and moringa. Quelites come from Mesoamerica and the moringa from Asia. The first ones are sold unpacked, straight from the farm, the second, processed and sold as health supplements. In Mexico, the concept of superfood is under recent use and follows a series of studies sponsored by Conacyt, aimed to rescue undervalued traditional plant species that are important for the Mexican diet (Torres & Morales, 2018). This research points at an important contribution to nutritional content in the diet of the pre-Columbian inhabitants of Mesoamerica. However, quelites have been relegated to a second plane by the industrialised agriculture, are not found in supermarkets but are still widely grown in rural areas for self-consumption. At the AFM01, they are produced by the women of Temoaya and are part of their own diet.

Quelites are considered highly nutritive and a cornerstone of the Mesoamerican diet<sup>66</sup>. The varieties from Temoaya, grow spontaneously and range from purslane to others like “chivatito”, considered a delicacy:

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<sup>66</sup> <https://www.bbc.com/mundo/noticias-47311468>

*“Some products are not necessary to be seed... the quelites grow on their own, the chivatito too. Also, other quelites known as ‘panetaria’ and ‘trébol’. Everything is natural, clean and has no chemicals.*

*That’s why we bring variety. Because in our community the land gives us a lot of things [laughs].” - Victoria, AFM01*

For the women of Temoaya, being able to share their own diet at the AFM01 and getting recognition for the products represents a joy. Quelites as other pre-Columbian foods have been undervalued for a long time.

The moringa or “drumstick tree”, is a plant from India, referred by the seller at the AFM01 as: “a tree that has medicinal properties and is considered a superfood”. This plant is sold in several presentations: leaves, seeds, oil among others. This project began around 2013 and joined the AFM01 in 2015, the interviewee is a distributor from the ranch where the moringa products are produced, in Michoacán State.

Blanca, the distributor, knows the producers from Michoacán State and learned about their production process. The moringa products resemble food supplements rather than ordinary food, the main component is moringa powder:

*“We have derivatives of moringa powder, which is moringa tea, powder as such, capsules ... and we have moringa seed, moringa oil and capsules combined between moringa and oil, and moringa and seed.” -Blanca, AFM01*

The variety of moringa products is remarkable, however, they are presented in a more conventionalised way, like industrialised food supplements.

As for the moringa powder, the seller, Blanca, refers to it as one with multiple benefits:

*“It can be used for smoothies or juices or you can put it in food and that helps people to raise the defences due to the vitamins, minerals and proteins that the plant contains. It also helps people with anaemia and diabetes, because it regulates blood sugar, low cholesterol, triglyceride. It can be consumed by children too, instead of vegetables that sometimes they don't eat, they can consume it with moringa without even realizing it.”  
-Blanca, AFM01*

Moringa is not originally from Mexico and constitutes more of a food supplement than ordinary food like quelites. Being found next to fruits and vegetables that have been part of the Mesoamerican diet for centuries raises questions about the path AFMs may be taking.

Vegetables and fruit from other Global South countries are not rare in Mexico, like mangos, but are far from being promoted based on health benefits.

Blanca says that she arrived at the AFM01 after contacting the organisers through the internet. The moringa powder products happen to be in high demand in developed countries, the ranch that produces them in Michoacán exports to them:

*“We sell locally in Michoacán, it is also sold in other parts of the Republic, here, and ... it is also sent internationally. It is sent to Europe, the United States, Canada and has had a very good response.” -Blanca, AFM01*

It seems that this product is having a good acceptance in the AFM01, but questions arise on the effects that this type of cultivars have in the biodiversity and natural resources of the area in Michoacán where the moringa is cultivated. Quelites are part of the local biodiversity and grow spontaneously, moringa may be more of a monoculture. Additionally, it has been seen that growing products for exports using monocultures, like avocados, has deep impacts on deforestation in the same State of Michoacán<sup>67</sup>. Altering the landscape inserting monocultures is probably not going to help biodiversity.

The owner of the moringa project is referred as an entrepreneur of farmer origins that has created jobs and a focus of development in her community<sup>68</sup>. According to it, the moringa is a trendy product that represents an opportunity, being hand in hand with the possibility to help other human beings. The production of moringa has been previously referred as an enabler of development in marginalised areas and its use by mandataries has put it in the public eye<sup>69</sup>.

The coexistence of quelites and moringa at the AFM01 is an indication of inclusiveness, at the same time there may be a risk of displacing endemic varieties and there is probably an impact on biodiversity at the production sites. It also reflects the preference of consumers and the wish to mimic trends from developed countries. Conventionalisation and a possible impact to local biodiversity may be overlooked by organic certifications if they are the only requirement from an AFM or food movement. The presence of these products is also an indication of how the term “organic” tends to be more often associated to “healthy”, creating a niche but also a trend.

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<sup>67</sup> <https://www.independent.co.uk/news/uk/home-news/avocados-deforestation-demand-price-rise-destroy-mexico-pine-forests-a7182571.html>

<sup>68</sup> <https://www.entrepreneur.com/article/337425>

<sup>69</sup> [https://www.bbc.com/mundo/noticias/2016/01/160118\\_salud\\_moringa\\_planta\\_venezuela\\_lb](https://www.bbc.com/mundo/noticias/2016/01/160118_salud_moringa_planta_venezuela_lb)



#### 5.4.2 Organic as a source of income

The “organic” umbrella gives the opportunity to entrepreneurs to be part of the AFM01, nevertheless, their visions may not be as clear as other producers with agricultural experience at the family level. Additionally, I could notice that the concept of organic can limit to some extent the visualisation of deeper principles of some producers<sup>70</sup>.

To illustrate the case of how the meaning of “organic” sometimes seems to be put into a more entrepreneurial context I will present the case of a vendor of organic chicken that comes from Querétaro. This producer was an entrepreneur in search of additional business opportunities. Regarding the production of the chicken and why it is organic, she seemed a bit evasive at the beginning to refer the origins of the project or how they make their products trustable. Producers usually talk long about the benefits of their products with enthusiasm, they are very knowledgeable. The main concern of this producer was related to climate change and cold in the underground facilities where the chicken live.

With Lupe, the concept of “organic” seemed to be just related to an “eat better” ideal her background and learning process did not seem to be related to small-scale or family-based agriculture. She and her husband arrived to the AFM01 through an internet application and the chicken farm was made by a work colleague of the husband who has the “know how”.

The producer of organic chicken has other jobs and she said to struggle to manage several sources of income. This may point at the attractiveness that the organic products have, but also to a niche that is being targeted as profitable. During my fieldwork I could observe people approaching vendors to ask them how to produce because they were interested in having an organic shop. To have more shops that sell organic products is not bad by itself, but as Dr Schwentesius pointed out, there have been people offering fake organic products, whether they are aware of it or not. In the case of the organic chicken, the producer referred to other meat products they sell that are not organic, like turkey, but it was not entirely clear if they cohabit in the same farm of the chicken or if they plan to make them organic too. It is normal for producers to learn through experience and probably the organisers are giving a fair chance to new participants to be part of the AFMs. The potential risk of paying more attention to certifications than backgrounds, practices and principles in pursue of completing an assortment of products, is that entrepreneurs or businessmen may occupy the place of small-scale producers who

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<sup>70</sup> Interviews felt more relaxed at the AFM02. This will be discussed further in Chapter 7. It is possible that since the AFM01 only works on Sundays and I had a very specific time to interview the producers after the most intense hours of sales, had an effect and they were likely tired.

actually need to find selling points, leading to a saturation already existing in more conventional venues.

#### 5.4.3 Reconnecting across territories

The third view in this section consists of reconnections through the organic, presenting a producer from south Mexico City and another taking products from other states.

Ulises is from Milpa Alta, a political demarcation in South Mexico City<sup>71</sup>. The group of organic producers he belongs to plant vegetables, like spinach, lettuce, tomato, green beans, pumpkins and potatoes. They claim to be producing 100% naturally and use a certified system of rainwater. The group of Ulises also has 400 chickens that produce eggs, they eat the remaining vegetables and in return fertilise the land. The producers organise the production by town, each one specialising in a specific product:

*“Say for example, my farm of 400 chickens I have in Topilejo, there we produce the eggs. In Milpa Alta we have the tomato, in San Pablo. In the high part of Milpa Alta, which is Santa Ana, we have the carrot and from there many colleagues join us with the vegetables... spinach, chard, ... lettuce and so on.” -Ulises, AFM01*

Ulises and his colleagues have been working for more than ten years in agriculture. Their network uses a food hub or collection centre (Spanish: “centro de acopio”), where the producers of the group take their products. From there, Ulises collects the products and goes to the selling points, including the organic markets of the civil association of the AFM01 located in Querétaro, Metepec, Toluca and Mexico City:

*“My brother met the founder in Querétaro... then in Metepec, Toluca... and from there all this friendship was generated, this approach we have, and we arrived here to neighbourhood. We have been here since it began.” - Ulises, AFM01*

Ulises’ group of producers and his family have been collaborating with the AFMs of this civil association for a long time and have created bonds of trust. It is interesting to notice that despite being located in South Mexico City, they can supply to other states and not just focus on the big city. This could indicate that the AFMs have been a better option for them instead of the conventional channels<sup>72</sup>.

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<sup>71</sup> As mentioned in Chapter 4, the territory in the political demarcations or “delegaciones” of South Mexico City has still plenty of green areas. Milpa Alta has preserved a more rural and traditional organisation, and still plays an important role in the supply of food for the rest of the city.

<sup>72</sup> This group also seems to have consolidated a presence in their own community, from other interviewees I noticed that selling in their communities is not usually the first option.

After some time in the AFMs, the producers achieve a level of certainty in their income and begin to sell in more places at a time. In addition, this group has made use of courses offered by government bodies like the Secretary of Social Development (SEDESOL) and the National Service of Sanity, Safety and Agri-food Quality (SENASICA), achieving a remarkable degree of organisation.

They begin to collect the food at 4 AM in the morning and drive approximately one hour to arrive at the AFM. Ulises is proud of offering products “from the countryside to the table” (Spanish: “del campo a la mesa”), in the same day. As for the meaning of organic, Ulises uses more frequently the term “natural”, which means for him “without chemicals or fertilisers”. However, they seemed not to be considering polycultures.

The enthusiasm of Ulises is reflected in the way he describes the organisation of his co-workers, it seems that his network is well consolidated, and everybody has the same hierarchy. They are a good example of how reconnecting at the AFMs involves knowledge exchange at different levels, creating extended networks outside the markets and reaching other localities.

Reconnection means more than shortening distances or organising production in territories. Products like coffee and cacao do not grow in central Mexico and come from tropical states. A cooperative in Chiapas, a state in South Mexico is represented at the AFM01 by Ernesto. He is motivated by the revalorisation of Mexican products, attributing the more expensive coffee price that he sells to the labour behind the production and the revalorisation of the producers of what they do:

*“What happens is that ... the same people of the cooperative are teaching the farmers to process the cacao and the coffee, so they are already involved in the whole process and in the end, they are putting the price they consider right.” -Ernesto, AFM01*

Ernesto refers to three main attributes to sell the products, the first one is related to health, the second to the absence of chemicals and the third is related to freshness. The cooperative produces new batches every 15 days.

This section showed how different aspects under the “organic” umbrella may seem contradictory, however, they are a manifestation of the multiple origins, practices and principles of the producers. Some seem to be following conventionalisation while their counterparts a revalorisation of traditional knowledge.

## Conclusions

Chapter 5 presented the first case study, an AFM with an “alternative to the industrialised organic” character. The AFM01 emerged from an existing network, created by a civil association that by 2018 had three markets in Mexico City, two in the State of Mexico and two more in Querétaro. The association has a three-state zone of influence with producers distributing to five cities.

The emergence of the AFM01 shows a reconnection between the capital city and the surrounding countryside through a network of organic markets with a wider network of producers. It points at a rapid growing and acceptance of organic food produced by small-scale producers.

The first organic market of the civil association in the city of Metepec emerged after a series of workshops on organic urban orchards that rapidly grew in popularity. The narratives of the founder and organiser suggest an unexpected success after they organised the first workshops in urban orchards, and a venue was needed to sell the surplus of produced food.

The AFM01 was the first one in Mexico City, it has a central location and operates on Sundays in a community building belonging to a Catholic order. People who were already familiar with the activities of the building were the first costumers of the AFM01. The location and the reputation of the venue helped to create a customer base, that expanded as the AFM01 organised urban orchards workshops and got more people interested on them.

The civil association uses participative certification to select new producers. The first ones that became part of the AFM01 were already part of the associations’ network, taking their products to Mexico City in a first stage. Later, the AFM01 found additional producers closer to the market. Coordinating the certification visits and triangulating the respective questionnaires to accept new producers was a challenge for the AFM01 organiser.

The AFM01 civil association has experience in workshops. This is reflected in the cultural and educational activities at their venue. Workshops and talks engage people around food production and consumption. A visit to the AFM01 has been envisioned as something else as just for shopping.

The practices seen at the AFM01 take agroecology into account and focus on the organic. The producers have different backgrounds, from indigenous communities to ranchers, and both have a distinctive entrepreneurial character.

Most of the producers had family knowledge and some production infrastructure before selling at the AFM01. The infrastructure came mainly from entrepreneurship and funding, allowing them to continue exchanging knowledge, experimenting and innovating. Cooperatives are the main choice for producers to access funding, either from the government or private organisations.

The first group of agroecological practices traces its origin to indigenous communities, where the producers have kept a diet and farming practices for self-consumption for generations. The assortment of fruits, vegetables and prepared foods in this category are different to those found in more conventional venues, since the producers select their own seeds and grow local varieties. They have diversified their assortment of food, and have built greenhouses for tomatoes and cucumber, usually in high demand in cities. By doing this, producers optimise the use of their land, planting products of higher value and mixing them with local ones, a modern variation of the milpa pre-Columbian practice. Instead of chemicals, they have developed natural insecticides and organic compost, adding value to their products. The producers, all women in the case of Temoaya's cooperative, share the risks and benefits of their hard labour, unlike large-scale producers, they do everything by hand. Indigenous practices have been hybridised as a consequence of infrastructure creation, income optimisation and demand at the AFMs.

The second group of practices comes from ranchers, who are entrepreneurial and willing to try new things that save them money. The three-state area of production of the AFM01 civil association has boundaries to the west with the Michoacán state. In those limits, producers see two distinctive production regions, one ready for large-scale production and exports, the other with small-scale agriculture. Those who cannot fulfil the large-scale demand or are in the process of trying organic agriculture have in the network of organic markets of the AFM01 an opportunity to become visible.

The ranch of Amealco counted with solid infrastructure and funding, the ranch operates as a food hub, education centre and open-air laboratory for landscape restoration, water capture and irrigation, and edible orchards. The area where it is located was depleted in the past by inadequate farming practices. His success with agroecological practices has motivated neighbour farmers to try organic agriculture. This extends the network of producers of the region and connects them to consumers of the cities through the AFM01 and their other branches.

At the edge of the extended AFM01 network, one can see small-scale ranchers open to experiment with organic products, however, they need either people visiting them to buy their products or someone like other producers going to the AFM01 and allocate their products. Change is slow in the area, but visible.

The entrepreneurial character of the AFM01 producers creates some interesting contrasts in the products offered. Pre-Columbian superfoods, like quelites, met others like moringa, from Asia, sold as a food supplement. The context difference of these two products suggests that AFMs try to be inclusive to products with an organic certification but if not assessed by additional criteria, they could be at risk of becoming health shops. The presence of food supplements is also an indication of the consumers preference and willingness to pay for certain products that are trendy or popular in developed countries and overlap with the meaning of “organic”. I observed customers from diverse social backgrounds but mostly middle-class.

The entrepreneurial nature of the “organic” also plays a role in reducing distances between production sites and the market, sometimes within the city and others across states. Some products at the AFM01, like coffee and cacao, come from South Mexico where the climate is favourable for their production. Their trade would be difficult without intermediaries, however, at the AFM01 they have a representative from their cooperatives. Organic production at their place of origin hybridises with long-distance trade to offer city dwellers a taste of a beverage with social cause. For producers, counting with selling points at main cities represents a steadier source of income.

Within the city, a group of producers from the southern half of Mexico City have created a local network of production that gathers products from different towns into a hub or collection point. From there, one of them takes the product harvested on the same day to the AFM01. They seem to have access to government funding and still seem to use monocultures, on the other hand they harvest rainwater and produce free of chemicals. These examples show that the extended networks that meet at the AFM01 reconnect distant locations or entire regions.

A downside of having some of the same producers selling at the different markets of this civil association is that they could be taking the place of other producers also looking for a venue to sell their products, saturating the available spots. Hopefully, as more AFMs open thanks to the success of the existing ones, there will be more places for producers that belong to the family-based category of REUs presented in Chapter 4.

The importance of creating more alternative networks along the country is seen through the AFM01 case, they are key to move products from small-scale producers who are willing to be

part of an organic production but do not always have the capacity to do it in a large scale or even transport it to nearby towns. The narrative on coffee and cacao from Chiapas, shows that AFMs reduce physical distances across territories.

The last group of narratives show that AFMs are good selling points and producers get better incomes for organic products. This has led to the inclusion of food supplements,

This chapter concludes with a question on the concept of “organic”. An “alternative to industrialised organic” AFM, the first case study showed that despite implementing participative certification, producers’ contexts produce diverse views on what organic means. At a basic level, it means “free of chemicals”, however, the cost of the certification is for some advocates of food movements an obstacle.

## Chapter 6. Alternative Food Market 02

### Introduction

This chapter presents the second case study, an AFM that embraces styles of production additional to organic. Emerging from urban collectives, it is based in the southern half of Mexico City and follows a more local approach.

Section 6.1 presents the AFM02 and its emergence from urban collectives, the work the organisers did to find a venue and the process to find the right producers. The other sections deal with the practices and principles of the AFM02 producers. These sections are organised as a tour around the different productive areas within and around Mexico City where the AFM02 producers live and work. Section 6.2 introduces the political demarcations in the south: Tlalpan, Xochimilco and Milpa Alta. Section 6.3 is dedicated to former semi-rural political demarcations that have been quickly urbanised and are now overpopulated: Iztapalapa and Tláhuac. Section 6.4 presents projects from productive regions related to Mexico City but not within its political boundaries.

### 6.1 Emergence of the AFM02

This section presents the emergence of the AFM02. Initially, AFMs gathered under an organic umbrella in the REDAC Network, emerging as an alternative to large-scale organic production destined for exports. Resulting in a type of AFM that was “alternative to industrialised organic”. The next type of AFM is not only organic and is not part of a larger association, it emerged from urban collectives based in South Mexico City. It This AFM can be classed as “alternative to organic”.

#### 6.1.1 From urban collectives to an Alternative Food Market

As Goodman et al. (2011), propose, the alternative food provisioning of this century is situated in the convergence of several pathways, being one of the most well-known, organic farming. In a similar way, Gliessman & Engles (2015), think of food movements as a result of the manifestations of activism and social change born in the 20th century. In this way, minor initiatives can contribute to social and political change (Goodman, et al., 2011). AFMs in Mexico are at the crossroads of diverse paths and visions, in the case of the AFM02 three factors made it possible: the search of the organisers’ families for a place to sell their products, their work in food urban collectives, and a critical position regarding the “organic”. The resulting AFM tries to go beyond an organic certification by emphasising the socio-economic aspects of food production and distribution.



According to the organizers, the AFM02 officially started in late 2013, but the process of finding a place to sell their family-made products, started long before. The father of Jesús, one of the market founders and organiser, looked for years for a place where to sell the goat cheese produced at their family ranch. Another organiser and founder, Ximena, was also looking for a venue to sell their family-made olive oil, she lived for some months in France where she got to know local organic markets.

The organizers had already worked in other food movements. They created a food collective called “Itacate”<sup>73</sup> to make their products visible in social media. The AFM02 also had an influence from another food collective specialized in permaculture called “Cualti”<sup>74</sup>, According to their website, Cualti aims to promote the sustainability of life in Mexico City: “to consolidate a network of projects and people with the experience, products and services that are offered to the public and willing to exchange them with other members and spaces that form it”<sup>75</sup>. The AFM02 seems to be the logical consequence of family-based producers getting organised in food collectives.

According to the previous information, the AFM02 is organized by three actors:

1. The Autonomous University of the State of Mexico.
2. Cualti Mexico. A collective of urban agriculture and permaculture.
3. Itacate Artisanal Foods

Their objectives as AFM are:

- To facilitate the local population an alternative option of consumption.
- To position alternative products as a real option among the consumers of the region.
- To generate a space of dissemination and conscientization of the alternatives to the conventional chain of production.
- To consolidate a market of alternative products that allows to build direct bridges between producer and consumer.

According to their website, the creation of an alternative market intends to “revendicate the right to food, promotes different types of communitarian organization and proposes a

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<sup>73</sup> In the “náhuatl” pre-Columbian language it describes a small amount of food prepared and wrapped to go, usually taken to the fields by farmers and eaten as lunch.

<sup>74</sup> It means “food” in “náhuatl”.

<sup>75</sup> <http://www.cualtimexico.info>

revalorization of the productive system”<sup>76</sup>. The AFM02 was conceived as a space for non-conventional commercial exchange of products that “represents an accessible alternative, healthy, responsible and just among the local population” (ibid).

The organisers see the term “alternative” as one that encompasses several aspects of food production and distribution at local level:

*“To add the adjective ‘alternative’ to the market seems adequate to us because in this way we integrate products that can fulfil one or several of the following characteristics: being the result of a local or artisanal production, being responsible with the environment, that in the cultivation or breeding of animals or plants no synthetic agrochemicals had been utilised, being part of a fair trade.” -Jesús, AFM02*

The “alternative” definition given by the organisers could be an indication of aspects that did not entirely work their organic counterparts. The idea of AFM they conceived points at the apparent shortcomings of the “organic” in social and economic aspects:

*“We did not know of if it was organic, agroecological or another adjective. We saw that there was a problem within the organic foods. One thing is how unaffordable they were for most of the population, for everything that the process of conventional certification involves, they also need a lot of technical requirements for the producer at a considerable cost of production. Seeing this problem and the devaluing of the organic, which is dissociating from its social and economic parts, we felt that the organic was only limited to the environmental part, and only considered the environmental productive aspects.” -Ximena, AFM02*

In more detail, the organisers of the AFM02 saw disparities with the “organic” term. In this sense, the AFM02 is a reaction and a consequence of existing channels at large or small-scale focusing only in the environmental side of a food certification:

*“We realized that there are coffees with an organic certification, that have child labour. We thought it was an incongruity and we did not agree with this organic terminology. And we decided, looking for words, to name it ‘alternative’, since this opens the space to incorporate products that do not necessarily have to be organic, although the market privileges this type of production, but we also incorporate other products that are traditional, artisanal, etc.*

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<sup>76</sup> <http://www.cualltimexico.info>

*It derived as a bit of that reflection and that disparity with the organic term and we decided to call it alternative.” -Ximena, AFM02*

After the words of the organisers, the “alternative to organic” can be seen as a renewed alterity that intends to amend the shortcomings of the “organic”. The need for new ideas was also acknowledged by some producers at the AFM01, like Leonardo.

A new wave of alterity points at Alternative Food Networks that depart from what was initially functional, like the organic certification. After a certain point, they took what worked and pushed forward amending the observed shortcomings, in the process the added visions from other food movements.

The AFM02 emerged after the AFM01 in time and form. They coexist and share goals, however, the emergence of the AFM02 indicates a renewed vision of alterity, based on what was seen to work for small-scale Mexican producers and what needed to be amended.

#### 6.1.2 Location and partnerships

As with the AFM01, the organisers of the AFM02 faced a challenge when they tried to find a venue to sell their products. They wanted to create a market in Tlalpan, where they have lived their whole lives. For the AFM02 organisers, the location is important for people to find it, their first option was a public space:

*“The space I think is fundamental in the installation of this type of markets, since having a good space guarantees the influx of people and therefore, the sales and market continuity. So, around this question of access to spaces, we have always looked for a public space. This is the most public one we have managed to access, because here all the procedures are a bit difficult, and there are political quotas that you need to cover to access a public place as the centre of Coyoacán or the centre of Tlalpan, and sometimes in operational matters it is very difficult to allocate a market in such a public space with such frequency, the whole week. So, in that sense, the access to space has always been an endless journey, the support we received first was from the Autonomous University of the State of Mexico and they opened the space for us, but after a series of bureaucratic procedures, time, forms and else.” – Jesús, AFM02*

Their testimony points at a common problem with open spaces in Mexico City, where local authorities have found an additional source of income by renting them for events, changing to some extent the concept of “public space”. Being “as public as possible” speaks of the intentions

of the organisers to make it open and diverse. When visibility was not working, they had to go out and distribute flyers.

When the organisers initially tried to open the first venue, they found a lacking attention from the authorities and opted for presenting their project to the director of the University of the State of Mexico (UAEMEX), who was willing to work with them and allowed them to use the House of Culture on Saturdays (Figure 27).



Figure 27. Exterior of the House of Culture where the AFM02 is set on Saturdays.

Tlalpan has a strategic location. In words of Jesús, it is like a bridge between the more urbanised north side of Mexico City and its southern half, still green and agriculturally productive:

*“Another of the learnings has been to make the production of the Federal District [Mexico City] visible, because it has very special conditions, which, according to my perspective, no other city in the world has. First, it has a population of between 8 and 10 million people who are potential consumers, there is a strong group of potential consumers and in that sense, the Tlalpan delegation is the largest one in the city. So, we are located in a very strategic place.” -Jesús, AFM02*

In terms of location, the AFM02 is a space that allows the producers from South Mexico City to bridge the existing gap created by urbanisation. Despite being key actors in the supply of food for the city, they were to some extent invisible. Most city dwellers probably are not aware of the tremendous productive capacity that the region has, and the changes they can enact by buying from them directly. After the creation of the first venue at the UAEMEX House of Culture,

more producers approached the organisers resulting in a second venue on Sundays at the Tlalpan House of Culture. The organisers became aware of the potential that southern political demarcations have to produce food and that there was a niche waiting to be filled by the AFMs. Spaces that the food collectives were not finding.

It was after becoming an AFM that the former food collectives finally found a place to sell their products and promote sustainable change in the food system of Mexico City. The figure of a market seems more powerful than other food movements. It gathers people, involves them. At the same time, it invites producers who have a long history and family tradition on agriculture to join and have their labour and knowledge revalorised.

### 6.1.3 Producers at two venues

At the time of the fieldwork the AFM02 had approximately 38 producers working on Saturdays and Sundays at two different venues. One third are from Tlalpan, the others are based in and around Mexico City; the organisers classify them as:

- 15 direct, primary producers
- 19 transformers
- 5 marketers

Despite the inclusion of the second venue, the capacity to receive new producers reached its limit, and only a few changes were noticeable in the time between visits. The organisers were conscious about this and reflected on the need to create more spaces:

*“Something that also costs me a lot of work to ignore and I do not know if I should see it as a challenge, but it is a bit painful, is that an infinity of very valuable projects and very valuable producers have approached, who would like to be part of the market, but due to the conditions of space we are physically limited to a certain number and also because we do not dedicate ourselves full time to this, we have other projects, so it is very difficult for us to say no to producers and real projects that could be here completely .*

*Just today a lady who is a maize producer and has spent all her life producing it, arrived asking for her products and her processed things to be revalued, but really, there is no space. Then it's like the need to create other spaces like this, that could link other producers.” -Ximena, AFM02*

As for the possibility to create more venues, the organisers said that it would be very difficult since weekends are the best days to install the AFM02. The rest of the week they have other

work responsibilities. Despite the limitations of space and time, they visualise an expansion in terms of experience:

*“We have not visualized a physical expansion soon because we just went through one, but in our ideas, in the long term there is an expansion of the experience, that is to share what we have lived here, the challenges and difficulties, and the failures too, I think that's it.*

*We also have the idea of networking a lot more with the markets that already exist in the Republic and in Mexico City who share this vision, then I believe in that type of expansion of our medium and long-term objectives.” -Jesús, AFM02*

A non-physical expansion represents efforts to continue reconnecting producers and consumers, it opens the possibility for new synergies or to exchange knowledge. In this sense, they would be applying learnings from their former urban collectives.

To find the AFM02 producers they used social media and went to similar markets:

*“First, we made a great diffusion in social networks and that is how many who sent us their proposals came. At the beginning we did not have anything, we only saw the proposal, more or less we saw the project, we decided with certain guidelines if it did or did not enter. Then we did an entry questionnaire where we asked those who aspired to enter the market to fill certain information that told us if it was definitely a viable project to incorporate it, or not. And then there was an expedition stage, we went through all the markets, well, almost all the markets that exist in Mexico City with these characteristics, and we were looking for the projects that interested us to invite them, like that, word of mouth. Then, the projects that were already part of the market were also in networks with other projects and had contact, so they were arriving, but by word of mouth.” -Ximena, AFM02*

As previously mentioned, once local producers hear of AFMs they want to be part of them instead of other options. Calls for applications also open the possibility for producers to create extended networks that could evolve into new AFMs or new food movements. Over time, the AFM02 organisers have created a series of simple tools to know more about the people who interact with them, PhD researchers included. This feature has the potential to connect other actors of the food system around the figure of the AFM.

Whilst the AFM01 opened the door to view a world extended networks of producers in a three-state region, the AFM02 does the same within Mexico City. Expressed by the organisers as a

world of their own, what is being seen is probably the tip of the iceberg in a matrix of land with mixed activities, comprising housing, businesses, conservation and food production.

The next section will present the AFM02 producers, taking a tour around the political demarcations of Mexico City and its surroundings. Across the city there are different approaches towards food production, some producers still have farms, others work in the roofs of their houses while others have optimised the use the space by opting for techniques like hydroponics.

## 6.2 The southern agricultural half of Mexico City

In this section I will present the first group of producers that sell at the AFM02, they are located in the southern political demarcations of Mexico City: Tlalpan, Xochimilco and Milpa Alta. Despite being a large city, agriculture finds a way to survive in different circumstances.

### 6.2.1 Tlalpan: recovering its agricultural practices

As already explained, Tlalpan is the largest political demarcation of Mexico City, still housing protected natural areas but under constant urbanisation pressure. Along with Xochimilco and Milpa Alta it preserves the remaining green areas of the city.

The two towns of Tlalpan with the most active role in the production of food for the AFMs are San Miguel Topilejo and San Andrés Totoltepec. There, the producers of the AMF02 have innovated and rescued food production practices.

#### *Rabbit meat products*

The first project I will refer to, introduced rabbit meat in the AFM02 which, according to the publication of the Secretary of Health “The Milpa Diet” (Spanish: “Dieta de la Milpa”), was already in the diet of pre-Columbian populations as a source of proteins (Almaguer, et al., 2017). It is important to remember that the people of Mesoamerica got their proteins from leguminous, like beans and broad beans. Proteins from animal sources were found in fish, seafood and meat from rabbit, deer, and iguana, depending on the region.

According to Rogelio, one of the five members of the cooperative producing rabbit meat, they realised that there was a niche for this product in the AFMs and opted to apply the knowledge of their families in its production. Frequently identifying themselves as “people of the countryside”<sup>77</sup>, they had to find a way to build their farms in balance with the environment since they are located in a protected area:

*“Our business began 3 years ago when we realized that rabbit meat is an alternative for health, because of the high protein content and its benefits. Then we gave ourselves the*

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<sup>77</sup> Spanish: “gente del campo”

*task of being able to make a project that could help the community, we could create jobs and we could make backyard farms so this could be commercialized.*

*Mexico City is an example of a good place for rabbit, the southern side was countryside... an agricultural field, all that has been reduced. We no longer have spaces to have large animals. The rabbit fits in small spaces, it is not very problematic, it is very productive in terms of production.” -Rogelio, AFM02*

The rabbit meat can be considered an alternative to the one from other species and suitable for the spaces in Mexico City. From my fieldwork, I could talk to cattle growers that due to urbanisation have to close and move outside the city. As in the case of the organic chicken from the AFM01, conditions of animal welfare were not commented. The focus of this cooperative is in the creation of jobs through social initiatives, like the creation of circular economies and alternative forms of currency<sup>78</sup>. At the AFM01 I met a group of producers from an extended network in the Bajío region who knew Rogelio, indicating that these cooperatives have found in the AFMs suitable venues.

Synergies as well as cooperation with academic and government institutions play an active role in this cooperative. Rogelio refers to his “hereditary knowledge” on growing livestock but he also has gained additional training. The cooperative has become well organised thanks to the inclusion of professionals that work on the quality of their products:

*“Well obviously we are from the village, there we have always dedicated ourselves to the rearing of animals for hereditary reasons; hence the reason to know this.*

*When we started the project, we had to start taking training in college... at the University of Chapingo, I took a course in cuniculture at the University of Texcoco, which was my first start and from there we have been preparing with SAGARPA ... well, on a number of issues we are getting prepared. Within the cooperative there are trained people, we have a veterinarian, we have a nutritionist and we have a food engineer.” -Rogelio, AFM02*

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<sup>78</sup> One that is of interest for rural development and peasant livelihoods is the “Tumin” a word that means “money” in the pre-Columbian Totonaca language and is used as a communitarian currency in the State of Veracruz but has spread since its creation in 2010 to other states in Mexico. According to an ethnographic study sponsored by CONACyT, despite not being recognised by the Bank of Mexico, the Tumin creates a local economy for peasants allowing them to avoid shortages of income and get just payments for their products (Junta de Buen Gobierno, 2014). Users of this currency claim that they are trying to “recover the real function of money”.



The members of this cooperative have had to adapt their living and farming to the protected area where they are based. By making the most of all the sub products of rabbit meat production, they have created a sustainable farm:

*“We live in an ecological reserve, in a protected natural area, so we have restrictions for construction issue but not for agriculture. Then the idea of putting the farm comes from there, we take care of the ecological part, with the rabbit waste like faeces, we make organic fertilizers, we tan the skins and well, we do a process to avoid deteriorating the area. During the rainy season we use some water collection for the process of washing. The rabbit does not really consume much water from us, but we have the right conditions and we also take care of the environment, that is, we do not pollute... we are a sustainable farm.” -Rogelio, AFM02*

They do not cut trees and produce compost for the community; besides, they invite other actors to visit their facilities to exchange experiences:

*“We decided not to build, not cut down trees, and we help the community to produce their compost, we give some workshops of urban agriculture and we organise periodic visits, colleagues come from Chapingo or fellow universities to see the surroundings of the area, how the trees are, how they behave and well, we do that part with the community.”*

#### *Víctor*

Víctor and his family are from San Miguel Topilejo, they have presence in other AFMs of the city and in the AFM01, through Ulises. The talk with Víctor adds information on how the “natural” way of production, as they call it, has existed in his family for generations, how they lost interest at some point due to the undervalued perception of farming activities, and finally, how the AFMs have reconnected them to consumers interested in eating healthy and local. All this has motivated them to go back to agriculture, including younger members of his family.

Víctor says that awareness on eating healthy food has just started to reach their communities despite the knowledge to produce ecologically, free of hormones, pesticides or chemical fertilisers being in his family for four generations. Víctor’s family offers around 28 fresh vegetables, by the year 2018 he got a loan from the government to buy a drier that allowed him to dry kale, at the time he also included in his stall products from other producers.

Despite having enough resources in his property, the way Víctor used them in the past was not sustainable, besides his family struggled to sell their products:

*“Many years ago, we would throw or sow for the sake of it and there were occasions that we had many losses because there was nowhere to sell the products, there were not so many consumers. So, through those experiences and the time, those 16 years have been trial and error year after year... we have learned that we increase our crops in quantity according to the demands of the market. We also try to never have shortages, it is very difficult to have a specific control because many things can fail, but we always try to supply the market.” -V́ctor, AFM02*

In 2000, the city authorities invited them to return to the old ways of agriculture, or “good farming practices”<sup>79</sup>, then the group of producers from Topilejo began to produce organically through collaboration:

*“We try to share experiences with each other to have a mutual growth. Those are the experiences that we can share there.” -V́ctor, AFM02*

Joining the AFMs meant higher demand and they had to make a better use of their lands, resulting in better yields:

*“We have a surface that is being self-sufficient to supply the markets right now. This year, which is a new cycle, we have been extending... using more of the same land, on the same surface, because the demands have been greater.” -V́ctor, AFM02*

Their practices have gained reputation and now the group of producers from Topilejo receives agronomy students to do their social service, to gain experience beyond the classroom. Their knowledge has been appreciated and now passed on.

For V́ctor, the practices make a difference and bring benefits to both producers and consumers:

*“Well, it has many benefits to consume local products, organic products free of pesticides, hormones, physically or aesthetically they may look the same as in the market, in the super, but the practices and how they are grown do matter a lot. Other products are grown with treated water, not all but some use pesticides, growth hormones and herbicides. This is what we make customers see, that the product they are buying is a healthy product from origin and that they see the other side of the coin, looking at what they may be consuming somewhere else. If they make some price comparison, they come to the conclusion that we are sometimes selling cheaper than a supermarket or another market. Here they get high-quality products.” -V́ctor, AFM02*

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<sup>79</sup> Spanish: “buenas pŕcticas de cultivo”.

The merit of Víctor is probably to have returned to the practice of agriculture with the teachings of his parents and passing them on to his children. Also, to gain understanding of the consumer views to create a match between his products and the image he projects.

#### 6.2.2 Xochimilco: chinampas still feeding the city

Xochimilco is one of the largest political demarcations in south Mexico City and preserves its countryside atmosphere. Known since pre-Columbian times for food production, it occupied the southern, sweet water side of the system of lakes in the central Mexico basin. The channels between Xochimilco and central Mexico City survived until the early 20<sup>th</sup> century, and they kept alive the commerce of food and flowers in the famous boats or “trajineras”, flat vessels similar to the Italian “gondolas”. Around that time, simultaneously to the naturalist landscape painters, Xochimilco became a day trip destination for city dwellers and the boats were adapted to transport tourists. This area of Mexico City remained alive with its kilometres of channels and chinampas.

During the Green Revolution, local people were told how to grow food “the right way”, a story told by several producers during the fieldwork. The result was the pollution of the soil below the chinampas and the deterioration of the channels’ ecosystems. In recent years there have been numerous efforts to reverse this by universities, local government, but probably most important, the inhabitants of Xochimilco. They have organised themselves in cooperatives that not just work to preserve the local ecosystems but keep tourism alive and are working in food production for the AFMs, in addition to the normal supply they have sold to public markets for years. The community have also started their own AFM just next to the channels in a small port called Cuemanco.

#### *El Chinampero*

Román is part of a family cooperative from Xochimilco, who have learned to grow food from one generation to the next:

*“We are a family cooperative, native of Xochimilco the majority of the “chinampera” production is learned from generation to generation, it is not about going to courses. The agriculture we do is identical to how it was done by our ancestors.” -Román, AFM02*

When asked about what makes the food production of Xochimilco so special, he refers to the techniques of building platforms on the lake surface that eventually worked for agriculture:

*“Back then a piece of leather was used, today we use as a net to remove mud from the canal, we dry it and hydrate it again, we tend it and we make the grid, which is what they call “chapin”. Then we sow and transplant and make cultivation beds. The only*

*modification we did were the cultivation beds, which now are made of grass and fodder, but fundamentally it is the same as the Xochimilcas did.” -Román, AFM02*

The producers from Xochimilco were left for many years at the mercy of intermediaries, who did not pay them adequately. When some organic brands entered the scene, they unfortunately continued the bad practices and low payment:

*“Well, we needed to move our products and some companies or institutions offered us how to move it, but they didn't pay us enough, or rather they were preying on us and it didn't work for us. Some brands that are now very consolidated in the delivery of organic baskets, were ... we were their suppliers, but they didn't pay us enough. “-Román, AFM02*

The key learning for Román at the AFM02, was about distribution and trust building:

*“We fundamentally learned what an alternative market is... it was something we didn't really know, how they work and to trust our customers. That was like the things we have learned more than anything, to distribute our product. Because we have known the production since ever.” -Román, AFM02*

To develop trust with their customers involves educating them about food that is not selected through conventional methods:

*“In the first place, it was like teaching people that natural things were well ... not always the same, and the size varied, the flavours varied ... sometimes, I don't know ... some of our broccoli still carry animals, don't they? That is, those we cannot eliminate, for us it was like the challenge to teach people that it somehow was certifying us, because they saw that we did not use any pesticide. The biggest challenge is to continue educating the people... that our production is not perfect, right? But it will always have its details, the leaves or some things like that.” -Román, AFM02*

Román is one of many producers from Xochimilco who have taken an active role in the conservation of the environment in their communities. Their participation in the AFMs has helped them to learn to distribute and sell their products for a fairer price. Xochimilco and its canals have been named World Heritage by UNESCO, however, the local indigenous knowledge may need additional resources to remediate the local ecosystems.

### 6.2.3 Milpa Alta: Cultural roots and family

Milpa Alta is the third political demarcation from south Mexico City where food is still grown in good amounts. Under the pressure of urbanisation, it still has a rural atmosphere and customs

there play a role in the organisation of the communities. In this sub-section I will present two cases that relate to a corner of Mexico City where the ancestral meets the modern.

Milpa Alta was in the 1980s easily identified by the production of “nopal” or “prickly pear”. The extensive cultivation of this cactus displaced former cultivars and served to massively introduce agrochemicals in areas like Milpa Alta and Xochimilco.

#### *A glimpse of traditional Milpa Alta*

When the Mexican academic Hernández Xolocotzi developed the field of traditional agriculture techniques (TAT)<sup>80</sup>, he paved the road for the emergence of concepts like “agroecosystem”, “agroecology”, “ethnoagronomy” (Ortega-Paczka, 2013). Some of these ideas were adopted and developed by fellow academics of him or his pupils years later. Behind them, there is a proto-idea of sustainability emerging from the knowledge of a “deep Mexico”, one that has been put into oblivion by external interests but very valuable and necessary for improving the livelihoods of farmers and to create a balance between environment and productive human activities (Díaz-León & Cruz-León, 1998).

The case of Magdalena and her family is a glimpse to possible ethnoagronomy future studies in order to gain deeper understanding of the practices and beliefs of small-scale farmers, sometimes not easily visible with agroecology (Cruz-León, et al., 2015) . It could be said that Hernández Xolocotzi tried to unearth the knowledge that has been preserved by generations of small-scale farmers, and in some cases at the AFMs it is possible to get an idea of what he was pointing at.

Misses Magdalena spent her childhood in Milpa Alta, in the middle of agricultural fields. She is probably the only producer I met at the AFMs who speaks náhuatl. She was aware of the problems due to the conventionalisation and she spoke coherently about them in a contemporary context. Misses Magdalena has a deep knowledge of Milpa Alta and the former inhabitants, the “Momoxcas”, the town where she lives still follows the ancestral organisation of the land.

The stall of the family offers a variety of fresh produce from Milpa Alta, and some others based on maize. Miss Magdalena says that they have diversified their offer of products to minimise waste, as in the case of marmalades. She is special case, in a spontaneous way she gives customers recipes they can make with the AFM products and not just that, she adds a comment or two on their health benefits:

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<sup>80</sup> Spanish: “Tecnología agrícola tradicional”.

*“In their food we are giving them recipes, basically the prickly pear cactus, because they ask us “how the prickly pear cactus is grown”, because we already tell it organic, it doesn't carry any chemicals, they are soft. In the morning it is medicinal on an empty stomach to prevent diabetes and lower cholesterol and lower fat in smoothies. In salads they can be prepared raw and cooked too. And in food you can make soups, tamales and stews, in green chili with nopales and green sauce, with pork rinds...” -Magdalena, AFM02*

When she sees that the customers hesitate to choose some of the products, she jumps in and tells them how to prepare them. According to her, she has got good feedback from customers who come back after trying them.

Miss Magdalena's daughter and granddaughters have a different style to sell, they are, one could say, more from this age. But the grandmother uses terms and metaphors that can only inspire visitors and enthusiasts of food activism:

*“We do it the traditional way, our grandparents and our parents used to say, ‘you have to sell good things, because if you do not get to sell, we will eat them.’*

*So, it is not all about Mr Money, but taking care of the feeding of each individual, each family, because the money.... The businessmen who come from large companies to dispose of our land, come to take Mr. Money. And wisdom cannot be monetised with people, at least you have to be proactive, participate, so they consume it with us.” - Magdalena, AFM02*

Miss Magdalena has become an important image of food movements. She has not been exempted from trouble, being told to increase the price of her products. Her efforts to educate others in the old ways, to be ethical beyond profit, are inspiring.

*Honey, amaranth and a cooperative: “Building in roots”*

Juan and his family come from the town of San Antonio Tecomitl, in Milpa Alta, they are producers of honey, amaranth and own a fruit orchard. Juan learned from his parents how to produce, who in turn learned from theirs. Four generations ago, after the Revolution War, Juan's family were granted their land, he thinks that even before his ancestors probably worked as peasants in the same area. Six people work in the family cooperative in different tasks.

Juan joined the AFM02 through an application, he heard of the market from friends who had a good opinion of it. The project of Juan's family sells mainly at the AFM02 but also has an income from small shops in Coyoacán and has other occasional sales., they also used to take part in fairs.

In his community, the family is well known for producing honey and the neighbours frequently buy it from them.

One of the first and most important things that Juan learned after interacting with consumers of the AFM02, was to value his work. He remembers how it was to ask for a fair price:

*“I have also learned to value our work, at the beginning we often had lower prices, it was... even a little sad to tell a price. Because you were used to sell it there in the locality, where many times the price is not so high although the quality of the product is good, right?” -Juan, AFM02*

Since Juan’s family has been producing honey in their community for decades, they possibly had minimal contact with consumers from other areas of Mexico City and after the valorisation of artisanal products, like honey and amaranth, they have realised the potential of their labour, which was mostly ignored before the emergence of the AFMs. As mentioned earlier in the section, Milpa Alta has retained a lot of its rural identity by adhering to their customs, putting them in a privileged situation at the turn to the revalorisation of artisanal foods in the supply of organic food for Mexico City. In this context, realising that customers would be willing to pay a better price for a good quality product and asking for a fair price probably was a breakthrough for producers like Juan.

The interview with Juan allowed to see some of the adjustments that producers had to face when they joined the AFMs. Despite being more focused in the local production, it was a small challenge for Juan to adjust to the sales during the weekend:

*“It is to come here every weekend, all morning, practically the whole day is gone on this right? You're already tired at the end of the day and the next morning you have to prepare your things again and well ... it has been a bit complicated.” -Juan, AFM02*

Adjusting to sale during the whole weekend represented a challenge for Juan at the time of the interview, he also commented that his family takes the products to the AFM02 with a van of their property and take one and a half hours to get there without traffic.

It is interesting that not long after Juan started to sell at the AFM02, a new panorama opened for him and his family’s project. It was around six months after he joined that the first interview took place and at the time, he had already realised that he could make a better use of the resources needed to produce, suggesting that a small push can make a big difference for small-scale producers:

*“...our level of production is sufficient; I even believe that we could systematize them better and have a more organized usage of what we do.” - Juan, AFM02*

A good example of this new panorama for Juan’s project is amaranth, a plant well known since pre-Columbian times, called originally “huatli”. For more than five thousand years amaranth had an importance comparable only to maize, bean, chili or pumpkin in the food culture of Mexico. Despite its nutritional importance, amaranth was strongly banned during the Colony due to its religious uses, like in the festivity of “Panquetzaliztli”, where it played a central role according to a historian of the time, Fray Bernardino de Sahagún<sup>81</sup>. Nowadays mostly found as seeds, amaranth is still used as in the past, to mold figurines of different shapes, some of them very popular during “Día de Muertos”. Among Mexicans, it is well known that eating a bar of amaranth and honey is a good source of energy during a working day, comparable to the promises of conventional “energy bars”. Despite the millenary reputation of amaranth as a reliable source of energy, amaranth bars have been displaced by the marketing of big brands and are less visible to consumers, one can often find them in family-owned convenience shops, with small producers selling on the streets or through people who grow it.

The transformation of amaranth into a variety of products goes hand in hand with Juan’s family production of honey and fruits:

*“What we are doing is some first transformations of our raw material, with amaranth we are already making roasted amaranth, amaranth flour, “alegrías” [amaranth bars], and amaranth with chocolate. With honey: pollen, propolis and royal jelly on request. And also, with the fruits we have jellies, jams, nectar and the raw fruit... apple, pear, peach and blackberry.” - Juan, AFM02*

The reason why Juan has destined most of its production efforts towards the honey, is its aggregated value, it represents the main income source of all the products he offers. To justify this, he refers to the holistic approach they have at the production site, where they keep the beehives among the fruit trees and the bees do the pollination.

Nevertheless, the good demand for honey and amaranth, the production along the year is different for each product:

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<sup>81</sup> <https://www.biodiversidad.gob.mx/usos/alimentacion/amaranto.html>



*“For example, the honey, we only harvest twice a year, in spring and October-November. In that case it depends on the amount of honey you harvested, and it is the amount of honey that you will have in the year. You will not have more.*

*For the amaranth, we usually have an amaranth surplus because we sow 2 hectares of amaranth and on average it gives you between 1 and a half tons and 2 tons of amaranth..*  
*- Juan, AFM02”*

The process of adaptation has gone well for Juan and his family, allowing them to grow by the time of the follow-up interview. They became a cooperative for a series of reasons, mainly the access to government funding. In this project, the activities among the family members have been differentiated and the parents seem to be helping the son to consolidate a steady source of income.

### 6.3 Agriculture in highly populated demarcations

There are three projects in the East Mexico City demarcation known as Iztapalapa, this place was one of the most important pre-Aztec settlements around the lakes. It became agricultural after the evangelization of the Conquest and nowadays it is the political demarcation of Mexico City with the highest population and in consequence, abundant problems derived from it. Nevertheless, the eight “barrios” or neighbourhoods that conform it, work hard to keep its traditions alive, including agriculture.

The three projects try to promote the urban food production using non-conventional techniques. There is no clear link between their work and artisan or ancestral techniques nor a deep effort to approach food production from an agroecological perspective, nevertheless, they are strongly promoting urban agriculture in the most populated demarcation of Mexico City.

#### 6.3.1 Iztapalapa: saving seeds; low water supply

##### *Laura*

Laura and her family have a vegetables stall in the AFM02, their project started as the master thesis of her husband at one of the most recognized universities of agronomy in Mexico, but they found that the investment in hydroponics was too high and opted for the organic production.

Additionally, to the sales of vegetables, this project has had an interesting turn and is the task of rescuing seeds of “criollo” or local varieties of vegetables, as well as preserving and exchanging them. The main reason Laura, explains, is that seeds have become increasingly expensive, selecting them allows them to offer a better product. I have not seen a similar project

within other AFMs although the seed exchange may occur anyway, I think it is a distinctive characteristic and another way that small producers can use to empower themselves.

#### *Urban orchards – UAM Iztapalapa*

The Autonomous Metropolitan University is the main one teaching a broad of topics on social sciences that in my opinion have seen more contact with the direct needs of the people in Mexico City related to food consumption and production. As mentioned, the young agronomists who pursued a career in food entrepreneurship and made it to the AFM02 studied there. In the second case I will analyse in this section, I will present the case of some urban orchards assessed by the same university, UAM, financed by the local government and hosted by a family.

#### 6.3.2 Tláhuac: jobs for a new generation

##### *Miguel, a student of agronomy*

The first project I will analyse is the one belonging to a group of young agronomists, who studied in one of the most recognized universities of Mexico City, the UAM in one of their campuses in the south of the city, Xochimilco. They produce vegetables in greenhouses and in open air in Tláhuac, one of Mexico City's demarcations with the most growth and problems due to urbanization. Greenhouses have been widely used by small farm producers and are promoted and sometimes financed by the federal government.

The main reason for them to pursue this path in food production was basically the lack of employment. Miguel, the person I had the chance to interview during my fieldwork, tells the story:

*“We are graduates from UAM Xochimilco, agronomy students, we started this project as a need for self-employment. We went out in search of a job offer and the truth is that salaries are very low and well, in Mexico City there is no work, right? So here is our family, our loved ones and well, we aime to this, to self-employ ourselves... start producing and especially produce without pesticides, that is our main objective.*

*Zero pesticides is a trend they teach at the university where we studied, they talk a lot about it a lot but they don't preach it with the example, since there are no producers there, we committed ourselves to the project and there it goes ... step by step.” -Miguel, AFM02*

The young agronomists, aged in their early 20s, offer the perspective of professionals that lack a link between agronomy in this case, and jobs related to it within the city. As a new generation that is more conscious about the gap between salaries offered to white collar workers and farmers, they opted for a self-employed project in the field of knowledge they know better.

The self-employment option is I believe, a response to the knowledge they probably have been in touch with, about intermediaries “squeezing” the profits from farmers.

In their answer, they also recognize that producing food without pesticides is a viable alternative within the city and by doing it, they have access, at least in theory, to a number of customers anxious to eat healthier food. By referring themselves to their families and “loved ones”, they show that evidently, in the case of young entrepreneurs in Mexico, the existing family assets, like a piece of land belonging to the family for some generations, can be used for food production and start a business that can benefit not just them, but the whole family.

As I will illustrate in the next case, the UAM has tried now to have a presence in the food production area, but at a different campus, not far from the Xochimilco one.

From his answer, Miguel shows an interest in practice more than just theory and formal research, which is a common situation in Mexico, a reinforced link between them two could prove useful for alternative food provisioning.

Miguel seems to be a person who knows already the traps of food commercialisation, when asked about their arrival to the AFM scene, he immediately referred to the low prices that are paid to food producers in general, and especially if they are free of chemicals:

*“Since we produce pesticide-free food, obviously we aimed to place it in a market that pays for it at the right price.” -Miguel, AFM02*

So, we started a market search, however there are several markets throughout Mexico City but the fees are very, very high. In fact, I would say exaggerated. There are fees of up to \$600 pesos, which it is sometimes what we sell in a day, obviously it does not suit us. And here the fees are accessible, and they are engaged in a social role. They have a “real vibe”, so to speak.

Yes, they are actually worried about sustainability, so that's how we arrived. “

Miguel seems to know that despite the great opportunity that “trendy” selling places offer, they sometimes are directed towards an elite of consumers that can pay large amounts of money for food. During my walks in the touristic areas of Mexico City, like the Plaza Mayor in the historic centre, I could see fruits like an “organic-artisanal” orange being sold for a bit more than two pounds each, most likely, appealing at the budget that tourists can offer for food in an exotic context and the promise of a unique experience of flavour and potentially, quality.

Despite the optimism, Miguel's words allow to see that the “trendy” food sales in Mexico City do not offer yet a fair entrance-fee for small producers.

At the same time, he recognizes the fact that the ideology of the AFM02 suits their ideals regarding a “real” version of sustainability and a social role. Among producers there seems to be a recognition of what may be the “real” or “ideal” way to follow, although it is likely that many others are like captured by the conventionalised ways.

In a more particular way, Miguel refers to the solidarity of the other vendors at the AFM02 as a key factor that appeals to his ideals around fair food distribution. This solidarity is manifested through the exchange of experiences and tips:

*“The people here tend to be very supportive and the customers very conscious, here the people come and say, “thank you, but I bring a bag”, there are people who get angry if one offers them a bag. That also affects one, as an example.” -Miguel, AFM02*

## 6.4 Producers from the State of Mexico

### 6.4.1 Texcoco: creating new ways

Ana and her family have dedicated 35 to the production of honey and its transformation into other products. The legacy of his grandfather, who began with the beekeeping activity and dedicated himself to it until the end of his life, was continued by his father:

*“There is a beekeeping tradition of 35 years with my paternal family. My grandfather started having boxes and so on until the end of his life and then my father has followed him and now as the youngest generation that is me and my sister, we are like taking it back and giving it a spin like bonding and revalorising the farming labour.” -Ana, AFM02*

The family is originally from the state of Puebla, which is one of the states that border Mexico City, where they still have apiaries. The family relocated to Texcoco, where they continued production once they settled there. In total about 5 to 6 people participate in the project.

Although the main production takes place in Texcoco, in the State of Mexico, Ana lives in Tlatelolco, north of Mexico City, where she says that the production of some products derived from honey also takes place, but the main point of Production is in Texcoco. To get to the AFM02, Ana has been an hour and a half and is mainly transported by taxi.

The products that the Ana family project manages, are the differentiated honey, to produce them there are two main flowering seasons, they also sell food supplements such as royal jelly and an energy product that is prepared with all the products of the hive, they also sell pollen . They are collaborating with a civil association called "Inana", which is dedicated to the conservation of the mist forest and native bees.

The theme of native bees has led them to create three principles, environmental sustainability, social sustainability and the integral health of people. It has also led them to promote bees as one of the most important pollinators, they consider that without bees, there is no food production, this perspective of placing bees as a vital part of the food chain leads them to the principles before mentioned. Ana comments that are also in projects for expansion and growth of the project, they consider forming commercial-type alliances with other producers.

Ana contrasts the conventional beekeeping with which they practice, she comments that in the conventional one she will only exploit and extract as many resources as possible, while what they are looking for changes in focus, they see honey as the surplus food of the Bees, they seek to respect them, says that organic beekeeping seeks to feed them their own honey, their own food, when they are weak, avoiding giving them another food that is not theirs. Instead of weakening them (conventional beekeeping), strengthen them.

Ana believes in fair trade, in breaking down barriers that bring the human side between producers and intermediaries. She considers key pieces to dialogue and sharing, which constitutes enrichment and growth in knowledge. For her, the alternative market is a "learning community", where difficulties and obstacles are shared with other producers, motivation is also shared, which is an aid for those who venture to undertake in a country like Mexico. For Ana the main barriers to overcome are their own, to believe in oneself, to believe that the project is possible, the other barriers are found on the road.

As time has passed the structure of the family business has become more complex, leaving some, like the father, in the part of production and she and her sister in the part of commercialization and transformation. This is important since the two sisters because of their age and probably having had some different opportunities from those of the father and grandfather, such as traveling and spending time studying a university career, have given them a different vision and an additional mission to which only Owned by people who spend time at the place of production.

For Ana, there is financial sustainability when engaged in this activity. Feedback with customers has allowed him to have the necessary support to undertake other projects, it is motivation. Clients believe in the project, they believe in the product and it says that "if they believe, I can't believe it too."

Ana comments that participating in agri-food short circuits is a subversive act because "you are building in another way", which goes beyond economic relations and leads to a way of life that can be replicated. This faces the environmental and economic crisis. Having other possibilities

that can serve as a model and reinvention allows other people to reinvent themselves as they see fit.

In Ana's project, they look for many alliances, which strengthens them, they do not consider competing with large chains, she thinks that her role is in the gaps that the system has and feeds on the search for people to build different things to conventional ones.

#### 6.4.2 Tepetlixpa: rescuing avocado varieties

The Xochimilca people were mainly farmers, and Rubén is conscious of it, he inherited an orchard that has been worked by his family since his grandfather, so he knows that the land has not been previously polluted or misused. This area is not like the one of section 6.2.2 with channels and chinampas, it is a landscape with changes of altitude and a warmer climate, good for avocados. After a life working in an office for most of his life, he realised as other producers that the knowledge his family had was being revalorised as the AFMs emerged. This made them pursue a closer relation with the consumers, finding the AFM02:

*“I definitely feel that the idea we have about it is real. That the relationship between the last consumer and the producer is very necessary, because we realize that the intermediary ignores many things and although in other cases, he knows them, he has no interest in making them known to his buyer. And what we were looking for, was to give that information to the people, so they knew how to select the product they were buying ... That some products, although apparently, they look unattractive, inside they are good.” -Rubén, AFM02*

Besides trying to share an idea diverging from the standardised food appearance that has dominated the conventional channels, he found that the intermediaries do not make anything about passing on the knowledge of food to the consumers, there is no dialogue. He and his sons used to produce for the conventional channels, but their situation was not working as expected.

For Rubén and his family, avocado theft has been a problem and they wanted to be a more active part of its way to the consumers hands. According to him, the avocado theft problem exists in the whole zone, from the high areas to the skirts of the Popocatépetl volcano and the mountain chain of Chichinautla.

For Rubén, the learning began in his family decades ago and continued in a more structured way thanks to the courses he took in government institutions.

The work of Don Rubén and his sons extends to preservation of food varieties that were displaced by commercial ones:

*“We have preserved varieties of avocados that were endemic of the region and that in many cases, when the improved varieties appeared, were knocked down and the new trees planted, many of the original have been lost. We have been careful in that sense, we have some avocado varieties that are very old, they are called “quilaguacate”, which is very tasty. That is what we tell the client when we bring them, we always ask them to eat them separately so, they can give us their opinion afterwards to see if we are right or they are ... just our fantasies, right? We are also interested in rescuing other varieties.”*

*-Rubén, AFM02*

One of the sons of Don Rubén has written a book on the history of their town, the whole family seems committed to preserve their heritage in the area in a holistic way. Don Rubén spent many years without caring of his farming land, but the shift to organic fertilisers promoted by the local government, and the revalorisation of their products, made him go back and associate with his sons to work in the family orchard. He commented that he expects to create a natural environment in his orchard, to grow more, he has been visited by people from restaurants and seemed to be interested in his products.

I had the opportunity to visit his production site (Figure 28), I could see that what he said during the interview was true, the trees were somehow exposed to thefts. The land has been managed in new ways, allowing to grow other fruit trees and comparing it to other sites nearby, the one owned by his family looked more integrated to the natural landscape. Don Rubén is happy to talk about his experiences re-learning agriculture, as other producers at the AFM02, he gives tours in his property and offers talks at the AFM02 on weekends.



Figure 28. Fruit trees in Tepetlixpa, State of Mexico.

### 6.4.3 Beyond Mexico City: Puebla

The range of activities of the AFM02 position it in the next stage of development of this type of markets, the testimonies of the people participating in it, show a mosaic of beliefs that are not entirely adhered to what is usually considered as “organic”. The AFM02 benefits from these visions of what may well be an image of the AFMs in Mexico in a stage prior to conventionalization or hybridization.

Benito is the seller of dairy at the AFM02, over time he has gone from commercialising the dairy products from his family ranches, to create networks with producers from other states.

His initial approach to the food production was through yoghurt, a product he fancied. After he realised that the commercial one had plenty of additives, he decided to learn how to prepare it.

His alternative views of the food system came from his life experiences as a backpacker. It is a exchange of experiences through travelling that makes Goodman (Goodman, et al., 2011), to include the New Age Travellers (NATs) as one of the minor contributors to alternative food provisioning, there were , he remembers that his experiences in other countries had an effect in his conceptualization of food.

*“...it made me think that much of that date of expiration of products... and on the other hand, everything organic in general has a very long duration. It is incredible because they have made us believe, and that is my theory, they have made us believe that conservatives are needed and the chemicals and preservatives industry need to be kept so that the products are healthy and fresh, and it is not really so, right? Living in the ranch we know perfect that it is not so.” -Benito, AFM02*

In the project of Benito, he is in charge of giving a face to the activities of his ranch, there are other people who have been working their whole life with cheese. He started around 5 years ago. Despite being relatively new to the world of dairy, he recognizes a difference between the “organic” and the “old-fashioned”, as he calls it. He emphasizes what he means by this difference, after he recalls his travel experiences in the US:

*“The main ranch is in Puebla and we work closely with them, they have an underground cellar, a refrigeration chamber and the cheeses are made in the old fashion, and the cows are taken care of in the old way too. I like the old-fashioned term more than the “organic” term, the organic one has been a bit spoiled from my point of view nowadays.*

*It [the organic] has already become commercial and one of the reasons why the organic movement began was to have polycultures, right? Clean water, no chemicals, basically*



*everything that has happened in the last sixty, seventy years. However, much of the organic, for example in the United States are large tracts of land, monocultures, so for me, it lost the essence of what was organic. The organic is more a smaller production, polycultures, so that the plants are accompanied.” -Benito, AFM02*

The roots in counter-culture movements from the 20<sup>th</sup> century are visible in another field studied by Benito, biodynamic agriculture, but what really moves him is the interaction with the clients and a sense of realization to give the animals in his ranch a proper treatment:

*“Well, I have many years in organic agriculture, I even studied biodynamic agriculture and it has a lot of other things to do besides what agriculture is, but what I most love is being in contact with the people, being in contact with the earth, being in contact with the animals, spoiling them [he laughs], and this is the best part.” -Benito, AFM02*

The AFM02 offers a glimpse to the matrix of land uses that exists in Mexico City. It also shows a connection with producers that without a solid infrastructure, could not in the first place operate like those of the AFM01.

## Conclusions

The AFM02 emerged from groups called urban collectives that after some time working together concluded that they needed a venue to sell their products. The organisers of this market found in two Cultural Houses in Tlalpan the ideal spots, since most of the producers are from south Mexico City. To find them, they initially scouted other existing organic markets and invited those who fitted better their profile. The AFM02 departs from the concept of organic and includes other types of production, trying to have a balanced assortment of food. The main producers come from the southern political demarcations of the city, Tlalpan, Xochimilco and Milpa Alta, where the use of the land is mixed and under the pressure of urbanisation. The producers of this AFM revealed a very wide and rich variety of visions around food. The relative proximity to their production sites allows them to work twice per weekend at the AFM02 and sometimes organise a guided visit. Some projects are in nowadays more populated political demarcations, like Tláhuac and Iztapalapa, but despite the housing they have found ways to produce and this could be a reference for future initiatives on urban agriculture.

Adopting a critical stance towards the organic, participants of this AFM have added importance to socio-economic aspects of food production and distribution. The second case study is pivotal to understand how the Mexican AFMs have learned from previous experiences and are putting attention in local issues that the umbrella of the “organic” seems to overlook, especially at local level. They are developing an identity of their own, based on their contexts.

The AFM02 also has an extended network of producers, they are mainly based in the southern half of the city. Some live and produce in populated demarcations, which may explain why in some cases they may not be able to produce 100% organic.

The emergence of the AFM02 points at the ongoing dialectics of Alternative Food Networks. Once a way to express alterity reaches certain point and its limitations show up, another emerges and tries to redefine it. The AFM02 has organic producers but sees the organic certifications as elitist and costly, an aspect that can keep excluding small-scale producers. The organisers of the AFM02 were also aware of the limitations that the “organic” has reached around the world, for them, it has focused more in the environmental at the expense of social and economic issues. While that may work for developed societies where the social and economic pillars are solid, for a country like Mexico the case is different and therefore the “organic” universe may need added features to embrace the ideals of the “alternative”.

At the time of the fieldwork, the AFM02 opened a second venue. This market opened a few years after the AFM01 and allows to see an AFM in a different stage of development. This situation uncovered an AFM02 relatively free of conventionalisation. The alterity proposed by the AFM02 was not strongly challenged yet, however, organisers and producers seemed to have a good reading of the food landscape and its pressures.

The locations of the AFM02 are two Houses of Culture, one belongs to the local government and the other to the Autonomous University of the State of Mexico. In this case, the partnerships to secure venues were found after some time spent in paperwork and talking to authorities. Despite being the largest political demarcation of Mexico City, both venues are centric in Tlalpan. One venue opens on Saturdays and the other on Sundays. The producers usually go both days, rotating the members of the family in charge.

The producers based in Tlalpan show two sides of urbanisation. Despite living in a big political demarcation, the productive activities of Rogelio’s farm are constrained by the surroundings. pollute or damage the surroundings. They have adapted practices to transform sub products of the rabbit meat production to create compost and other solutions to their daily needs. Rogelio’s cooperative is focused in the creation of jobs.

For Víctor, the situation is slightly different, he, his family and other producers from nearby towns have organised a shared production of vegetables and eggs. There is a hub where the product is taken and from there transported to the AFM02.

These examples show the reactivation in the family and community economies that AFMs can trigger, acting as nodes that reconnect actors of the food system.

The producers based in Xochimilco conform another network in south Mexico City, with the difference that they use a practice only found there. Agriculture in Xochimilco follows the pre-Columbian chinampas, floating platforms that sustain cultivars. The ecosystem created along water channels produces its own fertiliser, collected in the traditional way for years.

Both the Xochimilco and the Milpa Alta producers had difficulties setting a price for their products. Formerly they had worked with intermediaries, some of them from box schemes that are advertised as organic. These producers mostly learned about distribution and negotiation at the AFMs.

These cases teach us that despite being within a city, family-based producers struggle to find adequate channels to sell their products. The AFMs have the potential to uncover many more producers that have spent years looking for reliable channels to sell at a fair price. The food demand created by city dwellers is vital for the success of the AFMs. Without it, the organisers do not seem to have been able to get through the initial stages of their projects. The two AFM02 venues have been already saturated by demand.

In terms of chemical-free food production the Southern demarcations of Mexico City have the advantage of being frequently owned by the same families for decades, which indicates a good knowledge of the area's resources over time and an empirical certainty of the presence or absence of pollutants. Mexico City was mostly populated after the 1920s and those who arrived were typically looking for jobs better paid than agriculture. This contributed to the urbanisation of natural areas and to the loss of agricultural knowledge, leading to a relative disconnection between the rural and urban knowledge around food.

The producers who live in Iztapalapa and Tláhuac face a different panorama. These political demarcations are highly populated, to produce they implemented hydroponics and a greenhouse to make the best use of the reduced available space. Both saw in food production a viable way of life after studying agronomy.

Finally, the producers based in the same productive regions but separated by political boundaries south from the city, still have large areas to grow food. For different reasons they have turned to revalorise practices that already existed in their families.

The AFM02 producers have a clear idea of the impact their activities can have. Some even call it a "subversive" act that pursues fair trade and the revalorisation of labour and local food.

In general, the AFM02 producers were experiencing an improvement in their livelihoods after joining the market. As seen with the AFM01 producers, once they have a solid infrastructure and financial situation, they keep enable change, some towards more conventionalised businesses and others create new food movements.

The next chapter discusses the research findings.

## Chapter 7. Discussion and conclusions

### Introduction

The final chapter of the thesis is a discussion of the research findings. Section 7.1 discusses the emergence of AFMs in Mexico City. Section 7.2 analyses the distinctive practices and principles of the producers at each AFM. This leads to a discussion in section 7.3 on their potential contributions to the sustainability of the food system. Section 7.4 presents the conclusions of the research.

### 7.1 AFMs emergence and features: re-thinking Mexico City's food system

This section addresses the research question 1 by analysing the emergence of the AFMs in Mexico City and their distinctive features.

#### 7.1.1 Emergence of AFMs in Mexico City

This subsection discusses the factors behind the AFM emergence. It is relevant to understand the practices and principles of the AFMs.

According to the research, a missing link to reconnect small-scale producers and consumers in Mexico was local food movements. They took ideas from the quality turn, giving place to context-based Alternative Food Networks as they reached a point in their evolution where they needed a venue to sell their products. In the AFM01 case they originated in small cities of peripheral states, as for the AFM02, they were based in the southern, greener half of the city.

#### *Food movements*

The ideas of food movements from other countries have undergone a process of assimilation in Mexico, mixing with existing ones to create hybrid versions adapted to local conditions.

Mexico City is expected to grow and absorb nearby states within this century, the limits of the territories conforming the megalopolis are becoming blurry. The rural and the urban have produced a heterogeneous matrix where ecosystem services and biodiversity are vital to sustain the food production of the future. Additionally, there is a city-based perception of the country that causes a disconnection from the rural areas (Wright, 1990).

Authors like Goodman et al. (2011), Gliessman and Engles (2015) trace the origins of several food movements back to social movements of the 20<sup>th</sup> century, in developed countries. At their arrival in Mexico, these ideas met a hybrid landscape, where industrialised and traditional agriculture have coexisted since the 16<sup>th</sup> century. There were also existing food movements working on alternatives to far-trade capitalist agriculture (Tutino, 2018; Wright, 1990).

Official data on Rural Economic Units (CONEVAL, 2010; INEGI, 2012), showed that small-scale producers, a majority in Mexico, were being left behind. The existing hierarchy of Rural Economic Units favoured large-scale, highly mechanised producers, restricting the participation of the small-scale ones in food production (Diario Oficial de la Federación, 2014). For these producers, selling through intermediaries exposes them to predatory practices and very low visibility.

The first factor that contributed to the emergence of Alternative Food Markets in Mexico City was the quality turn in developed countries. The growing international demand for organic food and a government more open to globalisation promoted the creation of organic agriculture for exports.

The Mexican cases show that the AFM producers did not exactly saw big companies harming them, as proposed by McCarthy (2006) and McMichael (2009). However, supermarkets have started to offer organic food, appropriating the alternative discourse as Jackson (2007), and Hartmann (2011), point out. Producers seem to find at AFMs a fairer price, but some may be looking for the most profitable chain, which has been pointed out by Brunori, et al. (2012), Schmitt, et al. (2016) and Corsi, et al. (2018). Despite incurring in distribution, transport, working hours and fees as pointed by Corsi, et al. (2018), producers at the AFMs expressed an improvement in their livelihoods, suggesting that former arrangements with intermediaries were adverse.

In Mexico, the work of Efraím Hernández Xolocotzi on agroecology, points at the gradual generation of ecological and biological knowledge (“traditional agricultural knowledge”), transmitted through indigenous technological systems of adaptation and innovation (Hernández, 1988; Ortega-Paczka, 2013). Agroecological practices have embraced more dimensions within the food system (Gliessman, 2013), based on the exchange of knowledge from the production site to socially-created spaces (Astier, et al., 2015).

The agroecological practices of the Mexican AFMs also points at the multi-faceted structure of the food production projects within them, allowing uncover a different reality of the food that is consumed in Mexico City. While the conventional channels opt for long-distance supply, based in the main centres of production of the country following a growing city absorbing adjacent localities in the process ( (Rello & Demetrio, 1989; Torres, 2011), the alternative ones are playing a more important role by conforming a subsystem within the urban food system (James & Friel, 2015) that is gaining presence. It is almost evidence that rural, urban and peri-urban agriculture play a vital role in the preferred diet of citizens (Pramatari, 2016). Food is increasingly being

produced nearby or within cities, as they grow and absorb former rural areas (Aguilar, 1999; Aguilar & Ward, 2003). In other words, the research uncovers a universe of possible approaches to produce food in urban areas, a consequence of a matrix of land with different functions and purposes facing challenges of climate change, nutrition and food security (Perfecto, et al., 2019).

The AFMs emerging from the mixture of external and internal movements, constituted spaces for small-scale producers who needed a spark to become active and visible. However, they were not directly a reaction to the industrialised agri-food system and are constantly reshaping and evolving (Dawson & Morales, 2016).

The second factor was the creation of an initiative to produce organic food for the national consumers, adhering to existing certifications and laws. In 2006, the REDAC Network brought under the umbrella of “organic” a number of food projects that coincided in a market-based approach to exchange food. It had support from the Canadian ONG “Falls Brook Centre”, and was the first network of organic markets member of IFOAM (Bustamante-Lara & Schwentesius-Rindermann, 2018). The REDAC also played a role in Mexico’s legislation for organic production and certification. Its existence was important for emerging AFMs to be visible, but also to get validation (Nelson, et al., 2008).

A growing demand for local organic food in central states of the country eventually reached Mexico City. The path that the demand for organic food followed started in the states on the Pacific Coast that dedicate their production for exports and continued to the centre of the country. The three-state region of the AFM01 civil-association has limits to the west with Michoacán, a main exporter of organics. During my visit to Amealco, located near that boundary, I could notice that the ranchers were motivated by the large organic production of Michoacán, nevertheless, not all of them can cope with the large volumes needed for exports. Their style and volume of production were just right for a more local demand but remained largely disconnected from it.

After the first organic market of the AFM01 civil association opened in Metepec, a node emerged, and local producers were able to supply their products for city enthusiasts. At a smaller scale, the factor contributing to the emergence of these markets was, according to the founder and organiser, to gather people around workshops on urban organic orchards. This initiative resulted in more people interested in growing their own food, which probably resulted in demand for seeds, soil, compost, etc. A niche had been created with the organic markets as nodes in a network of small-scale producers that had been waiting to explode.

AFMs can be seen as nodes based in cities that connect small-scale producers in neighbour productive regions. For example, peri-urban areas are geographically located in the sphere of influence of cities and maintain a functional relationship with them (Hornis and Van Eck, 2008). Cities represent the centre of trade, government and administration of a certain region, whereas peri-urban areas provide cities with food and labour (Johnson, 1967). According to Cloud et al. (1985), the relationship between cities and peri-urban areas promoted the formation of suburbs in the twentieth century, creating functional urban regions (FUR) or daily urban systems (DUS). These relationships have created a functional dependency that may aggravate food issues in the coming decades due to uncontrolled urban sprawl, particularly in cities of countries of the Global South like Latin America.

Urban and peri-urban agriculture can become a source of income and employment and a driver to local economic development. Urbanisation uncouples the production and consumption of the local agri-food systems. The agroecological management of resources by AFM producers has recoupled the production and demand sides and began to increase the local agri-food system efficiency, this will hopefully enrich the decisions related to food issues in urban planning as pointed by Tedesco et al. (2017).

The situation seen in developed countries points at urban and peri-urban agriculture working as a source of local food, recreation, education and social services ("Urban and Peri-urban Agriculture", 2017; European Parliamentary Research Service, 2014). Despite the limited number of AFMs in Mexico City, it was possible to see that they work in a similar way, offering cultural activities, workshops and at some production sites, social services.

Both AFMs emerged from existing local initiatives, the AFM01 from courses on organic urban orchards aimed at personal consumption, and the AFM02 from citizen urban food collectives. The common point for the emergence of both AFMs was the need of a place to sell the food that was being produced. It may be considered a step towards conventionalisation, but also a means to achieve an ulterior stage in the same direction, unable to happen without specific partnerships and decisions. Once the AFMs were created, several interactions take place among the actors of the food system and the process is repeated in the opposite direction aiming at the creation of more and diversified projects. This was seen sometimes as attracting some entrepreneurs who want to be part of the added value of food seen at the AFMs, the interaction allows them to adopt some of the exchanged practices as a way to sustain and validate the quality of their products.



From a structural point of view, this need represents a strength of the small-scale producers to face the challenges of a system of government incentives that do not reach them. As presented in Chapter 4, small-scale, family-based food producers in Mexico do not have the same access to the market as other larger, more mechanised ones. It is a system of two inverted pyramids, with the small-scale producers accounting for less presence in the revenue for agricultural sales, and the large producers accounting for less in numbers. The government intends to pay special attention to small-scale producers during the current presidential term, but change is still on the horizon.

The revalorisation of food also implies to look at the countryside in a different way, which is a problem for dwellers of large, heterogeneous urban areas like Mexico City. The embeddedness that points at fair and trust-based relations among actors at local level (Hinrichs, 2000; Maye, 2013; Tregear, 2011) moves from rural to metropolitan areas, where the conventional chains have created a distance among producers and consumers. AFMs have reconnected actors of the food system that were until recent apart from each other. The more localised perspective of embeddedness mentioned by Feenstra (1997) has reached larger areas and now producers and consumers are reconnecting across states in central Mexico and beyond. The synergies among members of a local network is key for the success of these initiatives, as pointed by Heer and Mann (2010), but unlike Germany and other developed countries, the certifications are participatory in most cases and only required in the case of the AFM01.

The hybridisation of the conventional and alternative food systems or “dialectics” for Goodman (2011) has led to projects in between the conventional and the alternative, like the rabbit meat vendor of the AFM02, who has led the creation of a network of cooperatives and has been part of a local economy with an alternative currency but seems reluctant to become a “large” company. Other producers have consolidated their presence and livelihood and have moved on to the creation of new food movements, beyond the concept of the AFMs, as is the case of the “Agriculture for the Common Good”.

#### [Back to the land in Mexico](#)

For several producers, taking part in food movements implies a reconnection with the farming activities of their parents and grandparents in the first half of the 20<sup>th</sup> century, which no doubt adds value and differentiates the AFMs from other shops. The new generation of the families of producers has realised the potential and reappreciation from the people for their products and their work, motivating them to go back to work in agriculture but with better practices, far from the conventional, as in the case of Ana, the honey producer. As mentioned in other section, there is opportunism in the world of organic food, some businesses have opted to portray

imaginaries on food and farmers, an approach that Alkon and Guthman (2017) have criticised and is a form of marketing or to get the attention of consumers. More and more news claim that the organic labels do not necessarily imply animal welfare or healthier food, since the conventional chains have taken some elements from the alternative, as stated by Jackson (2007).

Maybe the closest resemblance the exploitation of imaginaries at the Mexican AFMs is the ambiguous relation with members of indigenous communities. The AFMs have not made clear to what extent they intend to include people from local minorities, who probably lack access to markets to sell their products, nevertheless, the change is slow as referred by the organisers of the AFM02 and more producers are looking a place in these venues. The presence of the farming women from Temoaya in online shops is encouraging but rises questions on the potential benefits their image brings to the middle-class owners of those businesses <sup>82</sup>.

The return to the agricultural activities was different for each producer, for Víctor from the AFM02 it was through an invitation made by the government of Mexico City in 2000, to change the use of agrochemicals. He said during the interview that this shift, accompanied by the good response from customers at another AFM where his father sells the vegetables of the group, made him decide to be part of it. In addition, he made the best of this event in his life and became more aware of being a healthy person since that is the image he is promoting through his products. Before being part of the AFMs, Víctor had not considered that his daughter would want to pursue a degree in agronomy, but now he sees things more positively and is encouraging her and his son to be more involved in the projects they have.

For Misses Magdalena and Mr Rubén, the reconnection came in a later stage of their lives, after they had already worked in offices, they saw the opportunity to recover the kind of work they had seen in his family as children and also a chance to pass the practices to their sons and grandsons.

It was found that most of the producers had a family connection to agriculture and went back to practice it after they saw changes at local level, either by invitations of the government to produce in a cleaner way, or when the AFMs started to emerge. In several cases, like the ones of Milpa Alta and Xochimilco, the producers identified the intermediaries as an obstacle to have better incomes and promote food varieties they considered important, like the Creole beans or avocados.

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<sup>82</sup> <https://www.elbuencampo.com/pages/productores-aliados>

A minor group of producers are just experimenting or have found a reconnection with their values through food production. The cheese producer from the AFM02 hiked for several years in North America and realised how agriculture and food waste worked in other countries. At his return, he had a different idea of how to relate to food and the knowledge behind it.

#### *Location and partnerships*

The founders of the AFMs needed a venue to sell their products. In the case of the AFM01 it was through a Catholic order that they got permission to use a building on Sundays, making it impossible to work on Saturdays too. The building is located in a centric middle-class neighbourhood and offers excellent visibility and accessibility from other areas of the city. In this sense, the AFM01 is very well located and this is seen in the number of customers that visit them. In 2019, the AFM01 moved to another venue nearby, but it is also related to a Catholic order, which means that the organisers have a good relationship with them.

For the organisers of the AFM02, locating the market in a public space maximises the visibility and exposure to potential customers, additionally, it allows to keep the idea of the market “as public as possible” (See section 6.1 for more details). Being located in Tlalpan, the largest political demarcation of Mexico City, the AFM02 also has the advantage of linking several productive areas with the rest of the city. The organisers had already worked in urban collectives and looked for a venue in Tlalpan, the first one that they found was through the UAEMEX and the second one through the local government. They have two partnerships and the organisers commented that they count with the support of the neighbours to maintain their presence in the community, despite existing a public market two blocks from their venue.

Location is basic to have a constant number of people visiting the stalls. The only observation I would make is that the AFMs are currently located in middle-class areas and new ones could emerge in the future in other areas of the city, closer to the producers. It is a trade-off due to the difficult traffic conditions of Mexico City, not all the people would be able to drive to the suburbs to get food.

#### *7.1.2 AFNs types: where do the Mexican AFMs fit?*

A basic but important observation from this work is that, as stated by James and Friel (2015), there are several types of AFNs that emerge in the alternative sector of an urban food system, and play an important role in the food supply. They promote an interest to understand how they can transform the society-environment relations in contrast to conventional methods in consumers and producers (Galt, et al., 2015; Goldstein, et al., 2016a). The selected AFMs are probably the next step after the creation of high-end organic shops and boutiques, the AFMs are also different from public markets, tianguis and rural traditional markets.

AFMs take their names after two different spaces of food exchange: tianguis and markets. The tianguis are conceived after the pre-Columbian venues, are itinerant and open-air, whereas a market takes place indoors (Bustamante-Lara & Schwentesius-Rindermann, 2018). The studied AFMs do not follow this classification. The AFM01 takes place indoors, but his name refers to a “tianguis”, while the AFM02 takes place outdoors but uses the term “market” to identify itself. This could be just a coincidence, but also a way to get the attention from customers, who would think that a “tianguis” has more traditional foods. On the other hand, even though the AFM01 takes place inside a building, the organization it is part of, considers it a tianguis probably because the other branches are located outdoors

In the universe of AFMs, for Bustamante-Lara and Schwentesius-Rindermann (2018), in Mexico there are two groups of tianguis, or open-air itinerant markets, those where that allow producers with different ways of production to sell directly to the consumers, and those with an organic certification. The AFMs opt to have their own, like the participative certification, an equivalent of the PGS or Participatory Guarantee Systems to guarantee the organic denomination.

As for other classifications, the Mexican AFMs coincide with most of the characteristics of Ilbery and Maye (2015), except from the inclusion of some fast-food equivalents, like the rabbit meat products to go, and the use of non-renewable energy, mostly as gasoline for transportation. Regarding the post-modern aspect, that would include the entrepreneurial participants, but those closer to indigenous contexts, have a more structured vision of food in their own way. In the case of Darolt’s criteria (2016), the main point to clarify would be the one on “ecological” products, since the AFM01 is organic and the AFM02 accepts a variety of production techniques. The classification of Venn et al. (2006) is interesting, because it proposes “direct sell initiatives” and “specialist retailers”; both AFMs are not specialist retailers, but if they become more conventionalised and implement box schemes, for example, they could become one. On a producer basis, it was commented that before joining the AFMs, some producers supplied specialist retailers like organic shops, so, it is also a matter of scale to select the network to analyse. The networks at the AFMs grow in complexity.

As for other classifications and typologies, following the classification proposed by Darolt (2016), some producers opt for intermediaries, even within their own families or cooperatives, while others mix the direct with the indirect sales as a part of their portfolio of clients. The reason behind this is simple, it was found that the demand for their products, despite growing, was variable, so they must work with a number of clients and sale points to subsist and help their

projects survive. As for distance, some producers opt for a strong-sustainable production and distribution, getting to the AFM02 by bicycle whenever possible, others allow a long-distance supply of ingredients or packaging as long as they come from within Mexico and produced by local people. In general terms, the AFMs of Mexico City are not just alternative channels of distribution as pointed by Renting back in 2003, that category is probably better filled by farmers' markets, found sometimes in Mexico as "producers' markets" (Spanish: "mercados de productores"). Instead, the Mexican AFMs reconnect the agricultural production and distribution that resisted the two last agricultural disruptions, the Green Revolution and the production for organic exports, to the main public, making visible practices and foods that are sometimes on the brink of disappearing.

The Mexican AFMs are similar to the trends pointed by Pramatarí (2016), indicating a shift from the consumer side to attend to small-, local shops in more frequent visits. The term used in some parts of the literature "short food supply chains" (Spanish: "cadenas cortas agroalimentarias"), was found in the report of one of the initial workshops of AFM members in 2016, organised among others by FAO (2016a), but the level of interactions is more similar to the "network" term like in the work of Goodman et al. (2011) and transcends to the "geography" approach of Maye et al. (2007) to fully understand their human and physical nature. The emergence of new movements and networks within the markets is a variant of what Chiffolleau et al. (2016) referred as complexity in the chains.

Within Mexico, the AFMs usually call themselves "tianguis" to be part of the pre-Columbian imaginary that adds quality and embeddedness to their products, but Escalona (2009), Bustamante and Schwentesius (2018) have already specified that the term "tianguis" must refer to open-air, itinerant venues, while the "market" term should be given to the ones happening indoors. In any case, the AFMs are highly organised to the inside and outside, indicating a highly structured type following the classification of Venn et al. (2006). The main observation here is that some projects inside the AFMS have reached a higher level of organisation, typically following strong business schemes and certifications, while others remain family-based and to some extent casual, but they are the less.

As for the commercial setting used to select the AFMs of this research (Galli and Brunori, 2013), it represents for the organisers and many producers a mean to achieve other goals, like new food movements and the pursue of their visions (Alkon & Guthman, 2017), but as mentioned by Schwentesius (2014), it is normal to find people approaching the AFMs attracted by the opportunity to sell at a surplus or simply start a new business. This last case is a reminder of the

disillusion that followed the study of Guthman (2000), where the real situation did not match the imaginary. For better or worse, the Mexican stage of the AFNs at the time of the research was still in the celebratory stage.

The type of products leads to the next section, as mentioned in the first chapters, the criteria by Darolt (2016) was useful to select the sample of the research, however he still refers to “natural” products and as seen during the fieldwork, the AFM01 has adhered to an organic certification scheme, while the AFM02 has opened the possibility for other methods of production.

### 7.1.3 AFM01 and AFM02: a comparison

In a similar way to the REDAC Network, both AFMs emphasise the reconnection with the producers. The AFM01 is organic and goes a step further advertising the protection of biodiversity through their products, while the AFM02 is more empathetic on making available to the people alternatives to the conventional production. The basic difference is that the AFM02 considers that the term organic has lost its virtue and has become elitist, while the AFM01 is reluctant to see the efforts of certification and governance succeed if more than one denomination is used.

Alkon and Guthman (2017), consider after years of working with organic movements that there are two main trends, the market-based and the activist. In the case of the AFMs of Mexico City, it is only after years of facing challenges and adapting to the food system that these trends can be seen, nevertheless there is still a process of differentiation within the markets and a mixture of the two features still coexist. Again, each project within the markets has its own vision and essence, in Chapter 5 I opted to present them in a way to make visible first the projects closer to the imaginary of the indigenous producer, moving on to more entrepreneurial approaches, then, at the end of the network the meaning of “organic” fades as the producers become part as another way to experiment with practices that become savings and additional income. In Chapter 6 I tried to capture the matrix of producers in and around Mexico City, to show that in the absence of a mandatory organic certification the mosaic of projects is more local.

The link between the urban agriculture workshops and the emergence of the AFM01 suggests that promoting early community engagement in an urban area may be leading to the emergence and eventual support of the AFMs. It may also indicate that people carry a nostalgia for the “old way” of food in Mexico, a latent disposition to consume it and an anxiety to re-engage with it. At the same time, it may suggest that despite the Green Revolution and the massive creation of supermarkets in the second half of the 20<sup>th</sup> century, people are not totally disconnected from the Mexican Gastronomy imaginaries that are to some extent brought back by the AFMs, a wish

to reconnect with a once semi-rural Mexico City or with a memory of their ancestors in another part of the country. There is a sense of promise that a non-conventional food market within Mexico City may be promoting the social justice absent in conventional chains and offering a look at the distant realities of the countryside. It is also evidence of the construction and survival of cultural bonds and identity around food in Mexico, despite its variants along time, locality and people. By enriching the meanings around the Mexican Gastronomy and the surviving Mesoamerican foods and techniques could help to lower the marginalization they have faced and incorporate them to healthy diets.

These reasons and the existing trust people had in the Catholic medical dispensary, probably helped the AFM01 in its process of acceptance and embeddedness attainment. For 2019, the AFM01 has announced a change of venue, moving to a Catholic secondary school not far from the Catholic medical dispensary, indicating a good relationship with the religious people of the area. The other AFMs of the same organization in Mexico City are not far from the central areas, but not close to the historic center of the city, suggesting location but also class could be playing a role in the expansion of these networks.

The AFM02 emerged not from an organisation but a network of urban collectives that were already working in the Xochimilco chinampas and exploring techniques like permaculture. They also reached a point where they needed a place to sell their products, and the itinerant events were not being enough for that purpose.

The vendors at the AFM02 have categorized themselves as producers, transformers and distributors of foods and other related products. It was seen that some producers at the AFM02 were starting their work in that type of venues, and they did not have labels, brands, etc, which the ones from the AFM01 did have due to the organic certification. The organic producers at the AFM02 did have those features and an exchange of experiences began, by 2018 the aspect of several stalls was different, less improvised and the presentation more elaborated. Since one of the organisers works in legal matters, it is possible that they are caring for the denomination and ownership of their products.

Despite some producers sell in both AFMs, they refer in the AFM01 to their products always as “organic”, whereas in the AFM02 one finds terms like “ecological”, “natural”, “old way”, every producer has its own way to talk about his work. In this sense, the postmodernist feature mentioned by Ilbery and Maye (2015) could be more present in the AFM02 through the diversity of approaches. Despite several producers studied agroecology, it was not their first answer to

denominate their products, it is interesting since this discipline encompasses a lot of the previous ones. It may be a way they have found to differentiate their products.

Regarding the presence of an organic seal in the products, it seemed that the producers at the AFM01 found enough mentioning it to close a deal, while the ones at the AFM02 had to make an extra effort to talk and convince the potential customers of the benefits of their products. A simple observation that could make a difference in the interaction with customers.

The AFM02 was also more political about food, while the AFM01, despite having producers collaborating in the elaboration of the laws of organic production and certification, was more discrete about it. As mentioned before, it seems that the organic character somehow creates boundaries for the participants, while others are still trying to do something different, beyond organic.

The reasons behind adopting or not an organic certification varied, some producers just did not consider it useful since they produce without chemicals anyway. Only a few were aware of more aspects of the organic production and its similarities with other visions (Zamilpa, et al., 2016).

## 7.2 AFMs Practices and principles

The empirical chapters provided a view on the practices and principles of the producers of the AFMs. In Chapter 2, I listed a set of hybrid agroecological practices and principles found at the AFMs. In this section I discuss them.

The discussion of the AFM practices is approached using the set of hybrid agroecological practices presented in Chapter 2.

The practices at the AFMs go beyond the purely agronomic, they emerge from the confluence of the pre-Columbian agricultural systems, the practices introduced from the 16<sup>th</sup> century onwards and 20<sup>th</sup> century food movements. The most distinctive ones emerging from the AFM contexts are agroecological.

The proposed set of hybrid principles and practices comprises production, distribution, socio-economic and ethnovarieties.

### 7.2.1 Production

Four production backgrounds were identified: indigenous community, rancher, entrepreneur and family based.

At the AFM01 the first three types were found whilst the AFM02 has all of them. As mentioned before, the AFM01 had an entrepreneurial footprint, given the longer time the producers have



been working at it and their better-established infrastructures. The AFM02 producers were met at an earlier stage of development, some traits of entrepreneurship emerging.

Products differ slightly depending on the producer background. Those from family-based and indigenous communities, like in the case of Temoaya, have products based on their daily diets, potentially having higher nutrients. The products from ranchers can be from monocultures in the process of becoming more diverse. Entrepreneurial products are better branded, they usually are packed for exports, like in the case of the moringa supplements.

At the production site, most of the environment-related practices were seen. Producers from the AFM01 produce their own compost and organic pesticides, select seeds, restore the landscape, capture rainwater and create edible orchards. Producers from the AFM02 have context-based practices, depending on their location within or around the city. In Tlalpan they work in balance with protected areas, in Xochimilco they produce in chinampas and in Milpa Alta at their properties. In Iztapalapa and Tláhuac production is optimised due to urbanisation, producers have opted for hydroponics or greenhouses. In the State of Mexico, extensions are larger and allow the practice of agroforestry. In general, the practices of both AFMs were conscious of the biodiversity, however, some producers still learn about polycultures.

Most of the practices taking place at the site of production were family or community based, an important feature considering that the organic production of other studies like the Guthman in the late 1990s found involvement of companies and some tenants. In my research, all of the producers owned their farms and part of the production was for their own consumption. This scale is also important because it can be safely assumed that the exchange of knowledge is easier at smaller levels of the supply chain, increasing the potential of small- producers to work towards sustainability. Additionally, the impact on sustainability can be better studied in further research, considering that one of the main ideas of agroecology goes around a higher efficiency of energy and resources at the production sites, compared of course, to larger- more conventional ones.

Most of the producers referred to the use of compost and multicultivars, crop-livestock mixed systems and the AFM01 organisation website mentions agroforestry. Several producers also commented the use of organic pesticides and fertilisers. The practices are certified following a participatory model that emerged from the REDAC, is recognised by the IFOAM and has been adapted by each AFM. Some producers commented that in their cases, a government agency reached them in the early 2000s promoting a change in the way food is grown, motivating them to shift their production styles. The practices sometimes are limited by the capacity of

production, as was seen in the area of Amealco, where sometimes the producers had to go back to conventional practices, being unable to satisfy large volumes of organic products. It was also observed that the producers report cases of shipments of organic products being mixed with conventional ones in order to satisfy the demand.

The “input substitution” mentioned by authors like Altieri (2002) and Gliessman & Engles (2015) is one of the main practices and features of the producers. Most of them talk about it in one way or another, referring to it as “organic”, “natural”, “the old way” and so on. This creates a gap between the legislation and the reality of the AFMs, as mentioned by Schwentesius, but is also a reminder of the variety of approaches regarding this agroecological practice.

### 7.2.2 Distribution

Distribution from the production site to the AFMs is arranged in food hubs, or through producers with private transport that can take the products to the AFMs. Others rent or borrow a truck from their family or community and the more audacious, like the producers from Xochimilco, use bicycles. Fruit and vegetables are sold without packaging and some prepared foods already have brands, those from the AFM02 were still in the learning process. In general, producers need a motorised vehicle to reach the venues, but the distances they travel are shorter than the ones that industrialised food follow.

At the AFMs, the producers make efforts to recycle flasks and not offer plastic bags. The surplus of product is frequently exchanged among producers, who have come up with ideas of recipes to create a series of dishes that are healthy and include their own products. An additional benefit of this practice is to prevent producers to go back to their communities carrying again product. Other producers create compost with the remnant that were not sold or make food for chickens, as in the case of the rabbit meat project at the AFM02. A major practice at the AFMs is related to diversity, the organisers take care of the biodiversity, but also the dietary, taking into account the products of the food basket, issued by the Mexican government.

### 7.2.3 Socio-economic

Synergies and cooperation are a strength of AFMs, they have the capacity to promote the exchange of knowledge and reconnect actors of the food system. This is achieved through activities like the organic urban orchards’ workshops of the AFM01, their restaurant and other cultural activities. Producers also educate the consumers, explaining the origins of their food, varieties, practices, etc. This includes their own visions on permaculture, agroecology, cooperatives and social justice.

Trust creation is fundamental for the incorporation of new producers and the consolidation of a customer base. The AFMs organise visits to the production sites for participative certification but also to engage customers. The ranch of Leonardo, the rabbit meat farm and the farm of Víctor receive students and academics to learn from their experiences.

The idea of educational and cultural activities is, as in the case of the AFM01 to involve the people of the communities in the production of their own food, for which, some producers take part in the selection and preservation of seeds, selling or sharing them with other producers and customers. Attendants can also learn to prepare food with the products of the AFMs as ingredients, a practice particularly popular with kids or be part of a visit to the production sites and learn more about rural areas not far from the most urbanised areas of Mexico City.

These practices, although not necessarily regulated, contribute to the transparency of the networks of the producers, but it should be noted that not all of them offer them sometimes due to the location. The customers play a key role in the shaping of the AFM projects, several producers related to testimonies of attendants to the market and how their products have been improved, sometimes adding a new label, flavour or product. The main features that were mentioned during the interviews were related to health and flavour.

It is possible to see the educational practices as marketing ones. By differentiating their products towards health, flavour or environmentally friendly ones, the producers can attract people willing to try their products or find benefits in their consumption. Most of the marketing takes place online through social media, where videos, pictures and experiences are shared with the “followers” of each project, a feature to take into account for future design of AFNs. As mentioned by Miguel Altieri, one of the purposes of Agroecology is to bypass the obstacles created by the conventional systems and social media offers that possibility.

Another key socio-economic aspect at the AFMs is the revalorisation of the labour of small-scale producers. Juan for example, relied on intermediaries and was not sure about the right price of his products until he reached the AFM02. It is safe to assume that families of AFM producers have improved livelihoods thanks to the revalorisation of their work and the direct contact with consumers.

#### *Cooperatives and scaling-up*

The rabbit meat cooperative from the AFM02 is a project strongly committed to promote fair trade, the meat was identified as a niche to become part of the AFMs in Mexico City with a healthy product that was not common. They have promoted an extended network where

several of its members were part of the former Union of Electricians closed by the government in 2009. After losing their jobs they started to look for alternatives to subsist.

In this sense, the scaling-up is a means to provide better livelihoods to people that otherwise could probably not be able to find a job. The case of the Union of Electricians was tragic, and it is of public domain that around forty thousand people lost their jobs overnight in 2009. After that, there were mobilizations and attempts to get their jobs back, but they were forced to find alternate ways to subsist. AFNs open the possibility to people who are affected by large-scale decisions to have a life.

The main benefit of conforming a cooperative is the access to government incentives and financing. On the other hand, the risk of pursuing a cooperative scheme is that the Mexican legislation considers them mercantile entities with specific obligations, making the environment for the projects statistically hard to survive for more than 3 years.

In terms of scaling-up, the producers at the AFM01 were ahead of those from the AFM02, because they emerged at different times. It is probable that after a few years, AFM02 producers start to look more like their counterparts at the AFM01.

#### *Certifications*

A key point of the organic certification in Mexico, is that at the time of the study some regulations were in process, some vendors at the AFM01 had other visible certifications like the Women of Temoaya, whereas the “organic chicken” only mentioned to have been accredited by the AFM01 at the time of their admission. This creates a gap between the imaginary of “healthy” food and the real features of it. It is possible a matter for further research, but it would be ideal for the AFMs and vendors to have their organic certificates at sight. This could also be amended by introducing labelling like in the case of the moringa vendor, which were also exporting. Over time these details seem to have created two groups of vendors in the AFMs, those who are letting the “forces for the market” driver their trajectories, and those who do not necessarily prioritise that. In general, there is a market-driven behaviour and the markets have faced fierce competition of other alternative schemes that use the opportunity to use them as food hubs, to supply their own box schemes at a higher price, leaving the customers of the markets in disadvantage.

The potential of the AFM01 to transform the food system is evident in the increasing presence in Mexico City. At the time of the fieldwork, the organizer reported to have vendors from Querétaro working in Mexico City too, representing for some of them a challenge in terms of transportation, but by 2018 I noticed a growth in the inner networks and synergies, some stalls

were offering products from several vendors. This means that one stall could be offering products from a whole area comprising more than two towns or small cities.

Finally, an interesting aspect to add to the discussion on conventionalisation of the two AFMs is the gap between the imaginary and the real, mentioned by Guthman (2000). Guthman points at how the organic production in California related to a political agrarian imaginary that was hardly the real case. In Mexico this could relate to the agrarian past, but mostly to the pre-Columbian origins of agriculture in the region. In this sense, it is inevitable to note that the middle-class spirit detected in this kind of markets departs from a traditional or public market but keeps using the image of the pre-Columbian Mexico. It can be seen from two perspectives, the opportunistic one, also mentioned by Guthman, or another one more linked to the roots of agriculture and gastronomy in Mexico.

#### *Competition and intermediaries*

It is undeniable that the impact of food differentiation that AFMs have promoted is one of the reasons for its consolidation in the sale of food in Mexico City. Evidence of its success is the adoption of similar speeches by supermarkets, public markets and other alternative food producers.

The work at the AFM producers let see how other organic shops, more of a high-end profile, put small-scale producers in an unfair position in terms of the prices paid to them, which differed from those at the shop. I will illustrate this with the cases of Víctor and his group of producers from Topilejo, Mr. Rubén as an avocado producer and an AFM organiser.

The case of this group of producers is interesting for several reason, in this section I will mention a bit of their origins in relation to the sometimes-unfair situation they faced with organic shops that appeared before the AFMs in Mexico City.

The case from section 5.3.2 of organic chicken at the AFM01 is also interesting as an example of quality trap. The “organic” has gone from an ideal to something more commercial over time, allowing practices that are not close to what was expected of it, for example animal welfare. The existence of a concept that implies promises of health can be used to sell products at a profit. The conundrum for AFMs here would be to elucidate what kind of projects they want in their venues and to what extent they are willing to go beyond government regulations in order to make a difference. Additionally, a project can comply with the requisites of an organic certification but may be leaving aside small-scale producers that may not have the competitive advantage of dedicated entrepreneurs.

Another example of this kind of situation was seen in the AFM02, where Doña Magdalena was not happy with other vendors telling her to sell the tortillas at a higher price. In this case, it seemed to me that the unattachment to money was more present in the producers whose families have kept indigenous customs closer to their daily lives. Other producers that potentially come from more conventional backgrounds see things different in terms of pricing and profit. For Doña Magdalena for example, it was common to express a disdain for money, she called it “Mr. Money” (Spanish: “Señor Dinero”) and referred to it in a negative way, like a disease. It is the case of other people closer to indigenous principles that money is almost a synonym to corruption and a reminder of bad events from the past for their people. Her community is not exempt of changes, she mentioned that her ideas were slowly less heard in the council of her community in Milpa Alta, despite being one of the political demarcations with a strongest sense of communitarian costumes.

High-end organic shops were in good measure pioneers in the established supply of organic food in locations like Mexico City. They probably faced a totally different demand and positioned themselves to fulfil it for a specific niche of the population. Despite increasing the visibility of organic food, the high-end organic shops have not been, according to the fieldwork, not always beneficial for the small-scale producers. In the first place, these specialised shops seem to have acted more like a typical intermediary, a trend that has not reversed despite the emergence of more AFNs. It may not be the case of all high-end organic shops, but the data collected let see that their relation to small-scale producers is not an equitable one.

An additional phenomenon was seen in the AFM01, one of the organisers reported that the market had been not long ago frequented by members of an organic box scheme, who arrived early on Sundays and bought the best produce from the vendors to sell them in boxes at an increased price later. The effects of this practice at the AFM01 were the shortage of products, the difficulty for early customers to access the venue and to realise that there was a grey area in the regulations of the market. The organisers started a dialogue with the producers to decide how the situation was going to be managed, after all they were selling their products and it was good for them. The involuntary conversion of the AFM01 into an organic food hub for a brief period also speaks of the opportunism arising in this profitable business.

Intermediaries are one of the reasons behind the producers being reluctant of the conventional food system and a driver to create new food movements. As presented in Chapter 4, the increased difference in access to the food market by small-scale and family-based producers and the big- mechanised ones has left the first ones in a situation of disadvantage. On the other

hand, as some of the projects conform cooperatives or scale-up, they incorporate new people in their schemes and the presence of intermediaries is back. In some way, according to the classification of authors like Darolt (2016) and data collected at the end of both AFM networks, the AFMs themselves may be conforming new intermediary attempts and in some extreme cases depredate others, increasing the complexity of the situation.

#### *Conventionalisation*

A common argument in the AFN literature is conventionalisation. Mostly pointing at its negative effects, it has on the ideals and visions of a more sustainable food system, it is also an aspect of heated debate to inquire on the nature and validity of food movements. It is most likely that no market-based solution can escape the pressures of the market, but in the dialectics between the conventional and the alternative (Goodman, et al., 2011) it is possible to distinguish a dialogue between the two positions.

A clear example is the cooperative conformed by the women from Temoaya. Having started as makers of tapestries, they got the support of a private initiative to diversify and get a more active role in the economic activities of their community as food producers. The market-based solution of tapestries found a second phase in organic food, and they became a flagship of the AFM01. In recent months I found that they extended their networks, becoming part of other shops that offer organic products in internet. What is peculiar about this case is that the profile of producer like the women from Temoaya or Doña Magdalena, does not entirely match the more entrepreneur-like of several organisers and members of the shops they work with. In some way, there is an appropriation of the imaginary of the Mexican indigenous farmer that validates the “healthy” image of more conventional shops. To make it more evident, it would be difficult to think that these channels would have the same image without traditional producers.

For a country like Mexico it could be argued that a strong sustainability stance coincides more with the visions of the producers and historical events in agriculture, although it was already mentioned by Tutino (2018) that there have been people adapting to the international capitalist food trade and others that have resisted. It seems similar in the case of alternative food movements.

What is probably important in the case of those projects that tend towards specialised health-shops, is that they are constituting a source of employment for others, although the degree of opportunism of these initiatives could be assumed as higher. In the other side of the spectrum, the projects that gain a consciousness closer to a strong sustainability are strengthening what Altieri calls a “bypass” around the interests of those with more power in the conventional food

system. Both types of projects are important, and both are reshaping the food landscape of Mexico. At this point of history, it is probable that the initial disenchantment of authors like Guthman (2000) in California almost two decades ago is better localised in large-scale organic producers, while the small ones, despite their limitations and relative dependence of the larger ones, have made use of the opportunities arising at the AFNs and have been able to experiment with new ways of alterity.

Regarding the hybridisation, people from strong rural origins that become part of these alternative, middle-class projects, have to learn the ways of a more conventional approach that the one they were using before in their communities. That could be the first step of conventionalisation, as stated by Juan, the amaranth and honey producer of the AFM02, when he remembered how he learned to price his products accordingly to the new customers he was getting in touch with at the AFM. This is without a doubt a way for the producers to get a better price for their products, but at the same time involves them in the market logic and to some extent makes them vulnerable to larger competitors, aspects that can distance them from the ideals and visions of a better food system.

The hybridisation in the other direction takes place in the revalorisation of food varieties that are almost forgotten, put usually aside by the conventional markets in cities. The influence of alternative food movements and networks is seen in the inclusion of images and slogans in supermarkets, creating organic sections or dedicating one day of the week to sell products “directly from the producers”.

In this process, the increased demand cannot be ignored, it was heard from several producers that the demand for organic products has frequently surpassed the production capacity of farmers in places like Xochimilco and Amealco. There are two consequences of this, one is that some producers are known to add conventional, non-organic products to complete the requests and not being left out of business, the other is that some producers leave the organic production as they cannot fulfil the demand and they lack the means to consolidate a larger network in a short time to compete.

In the world of the market-based food movements, the hybridisation has also contributed to the creation of local circular economies. As in the case of the rabbit meat producers from the AFM02, they have become part of the alternative currency known as “Tumin”, which allows them to keep a steady income and money circulation. The Tumin has been adopted in more places of Mexico and its use could be beneficial to those small-scale producers like Mr. Jacinto,



who cannot or dare not to produce more in an organic way due to a lack of certainty in the demand, or more specifically in a steady income.

The first case of conventionalisation to be mentioned is probably the one referred by Leonardo in section 5.4.2, he tells the story of the indigenous communities from his region that have been dependant of the government through agricultural conventional inputs or incentives, making them less suitable for innovation and adoption of organic practices. Similar cases are also mentioned by Wright (1990) in his work on the Mixtec communities, where the arrival of government agriculture officials who are not familiar with indigenous practices tend to overlook them and impose the ones they are told by their superiors. The experience of Leonardo contrasts with others from states like Oaxaca, where there is a relatively stronger resistance to adopt practices beyond their traditional costumes. Of course, as in every case there are exemptions, in Oaxaca I had the opportunity to witness the sale of a cheese imitation.

From a pragmatic point of view, what Leonardo refers as ranchers eager to innovate with organic practices is a symptom of a deep differentiation among farmers of distinct origins and maybe ethnicities. This also suggests that the conventionalization in Mexico took its greater toll in the indigenous communities, which was mentioned to me too when I visited other historic agricultural areas, like Xochimilco. In cities with a large number of immigrants from developed countries, like San Miguel de Allende, the AFMs seemed to lack the folklore of the indigenous footprint, whereas in Oaxaca, it is still present although with strong signs of industrial disruption. I argue that a way to track the alterity of the Mexican AFMs, the presence of biodiversity in the diets could be an excellent indicator of the level of deepness in the knowledge of the producers.

The conventional channels of food distribution and consumption have succeeded in the production of large amounts of food with the possibility to reach global markets. In the case of the AFMs, due to the coexistence with the conventional food system which has a strong presence especially in Mexico City and its vicinities, some of these traits have been adopted. At the time of the fieldwork the AFMs in Mexico were in general experiencing growth, this factor could play a role in those participants that see an opportunity to consolidate a better income or use government funds. In 2016, the government of Mexico City opened its own market following the success of the alternative ones, this is an example of a possibility to increase governance but also that the niche the AFMs were already covering may fragment in the upcoming years.

Initially, several producers sold in their communities and after hearing of the emerging AFMs applied to join them, frequently keeping some of their old contacts in case they needed to sell

a surplus or remaining product that they could not sell at the AFMs in one or two days of the weekend.

In other cases, the producers found new customers after being part of the AFMs and diversified their offer of products. As mentioned in another section, a consequence of the acceptance the AFMs among customers in Mexico City is that they have been targeted by other food businesses who claim to be alternative networks but get their products from the AFMs and sell them for a profit. During my last visit I observed that the AFM01 had opened a dialogue with the vendors to attempt to mitigate this, since the customers could practically not get the good products after the hoarding happening by an organic box company during the first hours of Sundays. This is a symptom of another problem, which is the lack of sufficient offer of organic products, also causing a mixture of organic with conventional fruits and vegetables in an attempt to avoid the loss of the sale. During my visit to Querétaro, I saw a case of producers who had turned their organic businesses back to conventional after they could not cover the demanded product. In that case, the demand is high in the region due to the proximity with Michoacán, a state that is known for massively producing organic food for big companies from the US and Canada. That may be a reason why several producers have turned their eyes to the AFMs, where usually a smaller amount of food is demanded.

Due to their initial success, some of the projects within the AFMs have opted for scaling-up, which poses new challenges and learnings.

For Juan at the AFM02, the coexistence with conventional food networks is normal and necessary, due to the surplus that sometimes exists he has to allocate his products in other venues, often conventional. From these answers, it is seen that the drivers of diversification of cultivars can be economic and environmental, Additionally, he knows that he has more than one channel to sell his products, suggesting that diversification and conventionalisation can occur at the same time.

After all, the actions taken by the participants of the AFMs are good examples of the empirical creation and exchange of agroecological knowledge in search of better livelihoods. Juan refers to the conventional networks as an option, which is not always shared by other participants of the AFMs, who seem to be waiting for a more consolidated demand to take higher risks. This is a factor to consider in AFNs, where small producers do not always have the resources to become entrepreneurs.

In general, I could identify five types of projects happening at the AFMs that present different degrees of conventionalisation, sustainability and potential contributions to sustainable food systems, livelihoods, differentiation and prevalence:

1. Health and high-end specialised stalls strongly linked to entrepreneurship.
2. Online presence and expanded networks.
3. Other, for example, box schemes organised by a small group of producers or having products from several producers in the same stall as a sign of cooperation.
4. Cooperatives, ranging from those highly focused on the creation of jobs to those more oriented towards the environmental remediation and protection of their localities.
5. New food movements, which depart from the basic AFM scheme and pursue new ways of alterity.

It must be said right away that several of these projects may fall in more than one category and that there may be others less visible, that is why the third category is described just as “other”. From this arrangement, the projects that see healthy food more from a business-like perspective are usually those that will employ the imaginary of the organic to the extent they are required, while the others on the opposite situation see their participation at the AFMs as only one aspect of their activities around food and activism. The category number two, represents those producers that are using some conventional strategies but at the time of the research did not look interested in something more. The cooperatives in category number 4 are also divided in those that are strongly focused on job creation and welfare to their members, maybe facing some adversity, there are other cooperatives that are usually family-based and are growing by incorporating labelling, certifications and government incentives, and there are the cooperatives that promote philosophies like “Buen Vivir” and pursue ideals beyond the AFMs, exercising their own visions of agroecology and eating healthy.

The proposed classification of projects within the AFMs also allows to inquire into other areas, like their potential contributions towards a more sustainable food system. If the projects that are closer to a strong sustainability create new food projects that intend to bypass the dominant conventional system, then they could be considered as the ones with most potential. Followed by cooperatives that have as their top priority the sustainability and the “other” projects that still have the potential to embrace visions of sustainability with more emphasis. In the last place one would find those projects that are closer to business ideas and have as their main goal the entrepreneurship, conforming health or high-end stalls within the AFMs.

Another aspect to be discussed using this classification would be potential they offer to the producers to have good livelihoods. In this area they are probably tied, every classification offers the producers a good way to subsist and if they opt for the creation of other projects or get government funding, they are in a better position than the small-scale producers that do not have access to initiatives like the AFMs.

In terms of survival and permanency, it could be said that the conventionalisation could offer more opportunities to stay in the business since they would be moving according to the market. In this area, I consider that the only category in risk would be the cooperatives with a profit approach, since it was mentioned during the fieldwork that they usually do not survive more than 3 years. Apparently, the incentives are still not enough and the demands from the legislation put them easily out of business.

The permanency is also related to the differentiation and the products within the markets have already started to do it. This aspect could benefit more the categories most opposed to each other, those that aim for the health high-end products and those that create new food movements. This would suggest that since the producers are in a constantly changing environment, to change with it is the best option, either by adapting to the conventional system or by resisting it in creative ways.

Goodman (2011) highlights the celebratory and critical approaches to AFNs, but in the Mexican context the situation of the AFMs goes beyond that as seen in the previous paragraphs. The changing environment of agriculture creates a variety of options for producers to survive and pursue their goals, either on the business side or the more activist one. Guthman (2000) pointed at three elements related to the disenchantment with the organic agriculture in California: the structural features of the sector, the practices and the motivations.

In Mexico more data still must be collected to approach the study of organic production like the study conducted by Guthman, and with a focus on agriculture at the scale of small-scale producers. Nevertheless, it is evident that the situation is very similar to California regarding the large-scale, mechanised producers of organic food. As mentioned in Chapter 4, the incentives for agriculture in Mexico seem to go to the most mechanised producers, leaving the small-scale ones without access to the market. This is part of a trend that started in the last century, aiming at the modernisation of the agriculture in Mexico, but left the family-based farmers aside, despite their larger contribution to the production. So, the structural features of the large-scale sector of organic production in Mexico are similar to the ones of California almost two decades

ago, luckily, they were not part of this study, which intended to study the social side of the organic production at a smaller scale.

It can be seen that at the scale of the AFM producers, the practices are not of the large-industrialised producers that are mentioned in Guthman's study. Producers are constrained by a variable demand of product, but have still some freedom to decide the best way to produce, this partially thanks to the participatory certification, which was developed by food enthusiasts like Dr. Rita Schwentesius to bypass the difficulties of other existing certifications and adapt the participatory one to each locality (Schwentesius, et al., 2014). Also, thanks to the emergence of "alternative" markets like the AFM02 that try to bring together different ways of production.

The motivations are inevitable linked to the nature of the market-based initiatives, but as explained before in this section, the differentiation of the projects within the AFMs reveals that some producers are decided to create new food movements that go beyond the current state of the markets.

#### 7.2.4 Ethnovarieties

Most food ethnovarieties were seen at the AFM01 from the women of Temoaya and from Magdalena from Milpa Alta. As for practices, the producers of Xochimilco still produce in floating platforms that have barely changed in centuries, indicating that these practices survive in the southern half of Mexico City.

A practice that cannot be ignored is related to the Mexican Gastronomy, despite some projects bringing food and recipes from other countries from time to time, the basis of the products and prepared meals goes around Mexican recipes. As commented in Chapter 5, there is in some cases a simultaneous presence of foods that claim to be "super" and others that begin to be considered that. The Milpa Diet, a government effort towards a healthier diet for the Mexican population, condenses those food varieties that were domesticated in Mesoamerica and brought to the diet of the population. The idea is that if the people begin eating those products, there can be an effect in health problems like obesity and diabetes.

#### 7.3 Potential contributions to sustainability

In this section I present a series of potential AFM contributions to sustainability. In section 7.2, the practices of AFMs were categorised in: production, distribution, socio-economic and ethnovarieties. In this section, I will link the practices contributions with the pillars of sustainability: environmental, economic and social.

The practices employed by the AFM producers have the potential to contribute to the sustainability of the food system. AFN literature cites several links with its environmental, social

and economic pillars. For Forsell and Lankoski (2014), alternative food networks can contribute directly to sustainability through production, reconnection and governance; indirect contributions take place through the visions and goals of the producers. Mundler and Laughrea (2016), consider that AFNs contribute to territorial development, by protecting the environment, creating welfare for the community and farmers and triggering local development. The agroecological perspective of FAO (2018a), for sustainable food systems also conceives levels of influence, from the site of production to circular economies, where the key element is the exchange of knowledge. Gliessman and Engles (2015), proposes levels of food system change, from the site of production to the broader food system and society. For Hernández Xolocotzi, there were three areas of interest of traditional or indigenous systems, which can be related to the three modern pillars of sustainability: ecological, technological and socio-economical (Ortega-Paczka, 2013).

### 7.3.1 Environmental

As mentioned in the previous section, most of the practices that are related to the environment protection are found at the production site, reflecting the visions and background of the producer. The way food is produced for AFMs (organic, “natural”, “old ways”, traditional, artisanal), contributes to environmental sustainability.

The following AFM practices have links to the environmental pillar of sustainability:

- Urban agriculture
- Production free of chemicals
- Seed selection
- Organic compost and organic insecticides
- Landscape restoration
- Biodiversity preservation
- Water retention and rainwater collection
- Reduced distance between production sites and consumers
- Farming ethnovarieties

At the production site most of the practices have benign environmental effects. Both AFMs emerged from food movements that aimed at a greener food production. The markets of the AFM01 civil association succeeded thanks to workshops on organic urban orchards, whilst the AFM02 has its roots in permaculture urban collectives.

All the interviewees produced food without chemicals. Some used them in the past but shifted to organic or natural production, like Víctor and Ulises. As a substitute for chemicals, the women

of Temoaya empirically learned how to make their own natural insecticides. In Tepetlixpa, the producers try to keep their land free from chemicals from adjacent cultivars who still produce conventionally.

Seed selection is a strong contribution to sustainability. Laura and the women of Temoaya have selected and preserved seeds as a common practice in their communities. Laura, who lives and produces in a densely populated demarcation, does it to rescue endemic varieties that have been displaced by commercial ones and makes them available to consumers and other producers.

Others like the cooperative of rabbit meat, have found their own practices to produce while living in a protected area. They prepare compost with the remaining of the meat production since they cannot pollute their surroundings.

In his ranch, Leonardo has modified the topography to prevent the loss and organic matter of soil by erosion. By doing it, he is restoring the productive capacity of that area. Rubén in Tepetlixpa also has modified the area where he grows avocado trees by reusing remaining biomass from the trees.

As the terrain at his ranch is restored, Leonardo is planting edible orchards that will enhance the biodiversity and sustain ecosystem services. Juan and Ana were also aware of the importance of a healthy microecosystem to sustain their bees.

Producers like Leonardo and the group of farmers from South Mexico City, Víctor and Ulises, have created systems to retain and store rainwater. The cooperative from Xochimilco has used the water of the channels for centuries, providing them with a natural fertiliser.

Most of the producers live within two hours of the AFMs. Particularly those at the AFM01, some travel from other states, but take products of other producers to compensate for the trip. AFMs also reduce distances by having representatives from other states, like Chiapas, selling coffee and cacao in Mexico City.

The chinampas of Xochimilco and the milpa are production systems that date from pre-Columbian times. Chinampas are a unique practice and totally adapted to their context.

### 7.3.2 Economic

The agroecological practices from the production sites to the AFMs add value to food, improving the livelihoods of the producers. The identified contributions to the economic pillar of sustainability are:

- Added product value and higher share of value
- Improved producer livelihoods
- Job creation

By using agroecological practices from the production site to the AFM, the products get added value as they move through the networks. Even with the added labour resulting from environmentally friendly practices, producers can sell at better prices, especially in the absence of predatory intermediaries, referred by the cooperative of Xochimilco, Rubén and others.

AFMs make small-scale, family-based producers visible to audiences interested in eating healthy and local, as a consequence, the sales of their products increase, have better opportunities to apply for funding and can start other projects for additional revenues.

The added income and product demand at the AFMs, allows producers to hire helpers. In the case of Juan's family, they need them for amaranth harvesting. Leonardo employs several people in his ranch to manage the planting, landscape maintenance and logistics. In the case of Víctor and Ulises, their families have become involved in agricultural activities that until recent years were not attractive for younger generations. The same happens in Magdalena's family.

AFMs create direct and indirect jobs as their activities grow in complexity. This implies more opportunities for small-scale producers who can become part of the extended networks.

As the demand grows, the local communities restore productive activities that ceased when agricultural activities stopped being financially attractive.

Producers share risks in the activities they conduct, commonly in the form of cooperatives but also as families. As the network grows, the risks are expected to lower.

Some producers like Mr. Jacinto did not feel that the demand was steady enough to scale-up and they keep "experimenting" with organics, limiting their chances to do more. Others, like the women from Temoaya, have created partnerships with other networks and projects. This could mean that as the organiser of the AFM01 said, one of the most important things of the AFMs is to have a space where the producers can interact with other people, customers or producers, and experience the freedom to create. On the other hand, I saw that those producers who, for some reason, have not had that chance, remain to some extent at the expense of minor intermediaries to take their products to sell. In other words, the opportunity to interact at the AFMs is key for the producers to improve their livelihoods, it is not just a matter of selling at a different type of venue.



AFMs tend to include projects with diverse production practices and food varieties. On the positive side, this brings new ideas and promotes innovation in terms of products, practices and visions. On the other hand, this sometimes seems to happen at the expense of maintaining deeper values, a common critique of the AFNs. The case of the coexistence of the “quelites” and moringa at the AM01, is perfectly justifiable since they are different plant varieties with different benefits and presentations. They come from projects located in different states and do not compete between each other. From a purely food perspective, it makes me think of the intention to keep a variety of products at the AFMs, but also of a blind spot about implications for biodiversity and endemic plant species. A food that, despite of a number of alleged benefits enters a regional ecosystem to fulfil the demand from other countries, may represent an unnecessary competitor with the possibility to displace more relevant products that are part of the diet of the local people for generations and should be revalorised. As a market-driven initiative, AFMs probably have to balance the cost of opportunity with their values and visions. It cannot be neglected that the moringa project, according to the information available, is creating jobs for farmers of their community and that the founder has noble goals, the point in question is the assessment of larger scale implications for the biodiversity of the locality and the displacement these almost-medicinal products have on other products of more natural origin. This could become a factor in markets like the AFM that strongly rely on a certification which sometimes may be a bypass for projects more focused on profits that visions of sustainability.

### 7.3.3 Social

Contributions to the social pillar of sustainability happen in a number of ways at the AFMs.

- Opportunities and inclusiveness
- Health benefits
- Access to food and healthy diets
- Preservation of traditional food, culture and production practices
- Community bonds and reconnection among actors of the food system
- Sensibilisation of customers regarding food production

The interviews with the cooperative of women from Temoaya and Mr. Jacinto from the AFM01 allowed me to see that producers from outside the city usually produce for self-consumption and the diet they had was strongly based on maize and local products. After reaching the AFMs their diets have become part of a wider audience. This represents an opportunity for city dwellers to try ethnic-specific diets that have undergone processes of selection in those communities for centuries. AFMs make these healthier diets accessible to the general public.

In this way, producers from small communities get recognition and are empowered to create and improve their livelihoods. At the same time, the cultural heritage of the country is preserved and revalorised. All this happens while the consumer gains awareness towards context-based foods and diets.

Food that was not exposed to chemicals or hormones in its production will probably have a positive effect in the health of consumers. It will likely have more nutrients thanks to the agroecological practices and because it is taken fresh to the AFMs. By keeping the biodiversity at production sites, the access to food of the communities and cities increases. The diversity of crops also has an effect on the health of consumers and helps to preserve the local food culture.

AFMs promote the creation of bonds among the actors of the food system. Consumers learn about food production and become aware of the local food culture. As AFMs become closer to their contexts, they can gather people with deeper knowledge of local gastronomy and other traditions.

### 7.3.4 Change in the food system

AFMs can be seen as nodes in small-scale producers' networks that catalyse an exchange of knowledge, practices, trust, etc, with the broader food system of Mexico City. The proposed way to visualise this consists of a feedback loop connecting the stages of production and distribution with the broader food system (Figure 29). The diagram is inspired by Gliessman and Engles levels of change in the food system (Gliessman & Engles, 2015).

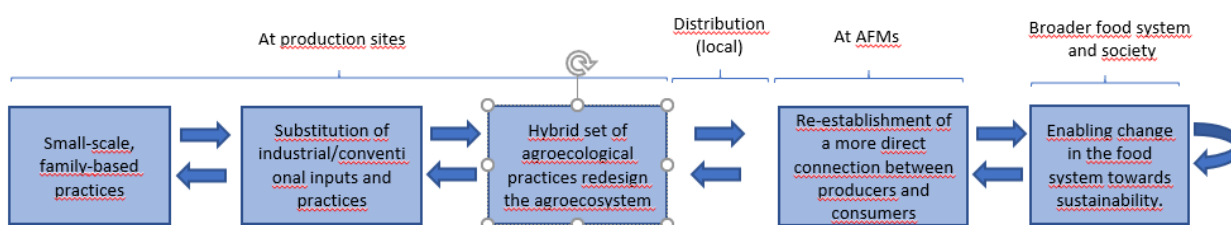


Figure 29. AFMs enabling change in the food system. Own creation based on Gliessman and Engles (2015)

A diagram like this also allows to explain how existing AFNs could be conventionalised if the feedback from the broader food system creates a demand of certain product or practice.

Each level plays a role in enabling change in the food system.

#### At production sites

The first three levels of change take place at the production site. Small-scale, family-based producers have existing knowledge that, in a first stage, turns to “organic as alternative” (AFM01), or “alternative to organic” (AFM02) production by substituting industrial or conventional inputs and practices. Most of the producers were in this situation, their families

implemented conventional practices around the Green Revolution and then converted back to organic or another type of food production. An exemption would be newcomers that started producing organic from the beginning.

Once the substitution of previous practices and inputs took place, producers create their own set of agroecological practices and begin to transform their agroecosystems. This stage needs the exchange of knowledge with other actors of the food system happening at the AFMs. These actions will need time to prove if the ecosystems can be remediated to a former point in time (Wezel & Soldat, 2009), but changes are in progress.

Despite having a long family tradition around food, the producers were in a 3 to 5-year process selling at the AFMs and were still exchanging ideas and innovating. There is an opportunity to conduct further research and assess in depth the level of ecosystem redesign of each project and inquire in the ways these projects may be restoring the ecosystems. At the production site level only monocultures and matters regarding animal welfare were observed as closer to the conventional.

#### *Distribution*

At the distribution stage, usual practices have no substitute for most producers, like transportation and access to government funding. Some producers carpool or use bicycles to reach the AFMs, others opt for taking products of several producers at their stall. The disruptions to transportation in and around Mexico City are an ongoing challenge for the sustainability of AFMs.

The REDAC foresaw a cleaner distribution of food. One of its goals included the minimisation of ecological impact due to transportation and packaging. During the fieldwork I observed a relative prevalence of plastic bags that in 2020 will be addressed legally by the local governments of most Mexican States.

#### *At AFMs*

At AFMs producers and consumers reconnect, exchange ideas, learn about food and innovate. According to Nelson (2008), the goals of the REDAC aimed precisely at the reconnection in different ways. In the first place was learning from the exchange of experiences, that can promote the creation of a solidary environment and can increase the trust of the consumers. A network like REDAC ideally would become a space for the exchange of information on organic agriculture that over time would allow a larger presence of organic markets at national level. During the fieldwork, it could be seen that these goals were achieved, especially the consumer trust, which can be difficult to earn and easy to lose, as pointed out by Dr. Schwentesius. The

only goal that was probably not accomplished was the one dealing with a greater presence at national level within the REDAC, it was seen that new AFMs in other states were not taking part of it although sometimes using their logo.

#### *Broader food system and society*

Interactions and knowledge exchange at AFMs can promote change in the broader food system. It is at this level that AFMs face most challenges.

The REDAC Network aimed at linking the populations from urban and rural areas, this was seen as more people visit the AFMs and an increasing number of producers want to become part of them. As for the stimulation of local consumption of organic products, it is a difficult task, in words of the producers the people from their localities is just beginning to appreciate the benefits of the chemical-free products and due to the reported variable demand not many of them are willing to shift completely to a chemical-free production.

A REDAC goal that is being fulfilled in good measure is the promotion of the bio-heritage of Mexico, most of the producers relate to it through their visions, motivations, products or recipes. This heritage is a sum of several factors, ranging from practices at the production sites, the cultural traits of the local communities, etc, just as the concept of milpa adapts to the locality, the producers learn and develop skills depending on their contexts.

Finally, the REDAC aimed at the divulgation of scientific knowledge and culture in the markets members of the network, which has probably been accomplished by the organisers, producers and researchers like me, who approach these projects to know more about change towards sustainability in the food system.

## 7.4 Conclusions

The aim of this thesis has been to uncover the features and practices of two AFMs of Mexico City as well as their potential contributions to a more sustainable food system. This section presents the findings, contributions and limitations of the research. It includes recommendations for future research.

### 7.4.1 Research findings

The food diversification around the world has created opportunities for small producers to reconnect with the consumers as well as spaces to promote a dialogue towards the sustainability of food systems. The research argues that Mexico City's AFMs present an alterity emerging from family-based knowledges, local cultures, and existing food movements. The studied AFMs followed two main paths, one is more aligned to organic certifications and has acquired a structure closer to the farmers' markets from developed countries, whilst the second path

focuses more on the local and incorporates a wider range of food production visions, including artisanal, traditional and organic. Since the creation of the AFMs, the vendors have extended their networks within and outside the venues with different approaches, in some cases leading to the formation of cooperatives, food boxes, online sales, foundations, and new food movements. The emerging mosaic of visions and practices at AFMs has a continuous exchange of ideas within the food system.

The review of the literature showed that the research on AFNs has been more focused on those from developed countries and needs to regain its impulse through theories that, additionally, shed new light in a series of shortcomings regarding the AFNs promises on sustainability. The literature also showed that the existing attempts to classify AFNs do not totally comprise the traits and visions of the AFMs emerging in Mexico, where a diversity in contexts and a culture around food that has survived through centuries in the fields and kitchens of Mexico. Through the exploration and understanding of visions on food in an environment under pressures such as conventionalisation and other challenges, it is hoped that this thesis contributes to enrich current research and debates on AFNs. Additionally, the exploration of the illustrative cases of AFMs in an urban context may open new lines of research to understand the non-conventional approaches that small-scale producers are taking to produce and commercialise food in fast-growing urban areas and the variants that the appreciation of food quality may have in developing countries.

The context literature showed that small-scale producers in Mexico have lacked access to contribute in a more active role to the national food production. Most of the income has gone to large, mechanised sector of producers that still represent a minority. In the light of restricted channels to support family-based, small-producers principally based in the countryside, AFNs emerge in Mexico as a new possibility to balance the presence of producers from different scales and origins in venues that are closer to the strongest consumers, those that have come into contact with the revalorisation of food quality, mostly looking for healthy food.

The AFMs were part of the Mexican Network of Organic Markets (REDAC), which was the first national effort to gather small-producer organic markets as an alternative to the large-scale organic production destined mostly to exports. Despite their beginnings as a network of organic markets, the REDAC did not make organic certifications a requisite for the participants, instead, let the participant AFMs to contribute with their views on food and agriculture. The implications for this were that, on the positive side, the AFMs could innovate as a function of their organisers, participants and contexts, but from a negative perspective, there was a limited governance that

is not seen in public markets. Nevertheless, the AFMs have a strong network of participative certification that has even been considered to formulate the Mexican laws of organic products in the past years. This can be seen as a dialogue between policy makers from the government and members of alternative food movements with the potential to make the food system more inclusive and open new opportunities for small-scale producers. The effect of the AFMs in the food system of Mexico City has been such, that the government has created an AFM of their own, following a series of guidelines from the AFMs that emerged from meetings and workshops since 2016. This could result in the mid-term in a food system that brings the best of the contributions of the AFMs to create public policies.

The AFMs developed distinctive characteristics and pathways in relation to the food movements that preceded them and the adaptation to the challenges they have faced. In both cases the founders reached a point where creating a venue to sell their products was necessary, the way to establish their venues depended on the feasibility to create the necessary partnerships. To find the appropriate producers, they relied in existing AFMs, leading to find common producers in both AFMs.

During the data collection it was possible to uncover the AFMs as a mosaic of visions, sometimes the projects that constitute them draw from previous food movements while adding others as they gained presence until today. It also allowed to appreciate AFMs as a rapid evolving type of AFN that in one hand has acquired aspects of more conventional channels and food movements, and in the other hand has brought to the attention of the consumers food varieties that were in the process of being forgotten. As for the policy makers, AFMs have constituted an ideal window to take into account the contributions of small-scale producers and bring back the family-based knowledge to a wider audience.

The number of stalls in the AFMs go around 30 and they work during the weekends. Depending on the venue availability, they work one or two days. It is known that other AFMs sometimes work during the week, but they are usually located outside Mexico City, it suggests that traffic and the fact that several producers attend from other states makes the AFMs of Mexico City work on weekends. Additionally, this probably also considers the customer attendance.

Through exploring the AFMs, two main visions emerged, in one case, the trend is towards the organic, producers need a certification to enter the AFM01 and usually own labels. The other trend has denominated itself as “alternative”, according to the organisers of the AFM02 this obeys a sense of elitism from the world of the organic and they pursue a more diverse range of

visions. These are the main trends, but in a closer look, the traits may vary from producer to producer.

AFMs tend to be inclusive towards different visions around food, it was possible to distinguish several types of projects, these are listed from the most common trait to the less predominant:

- Emerging from previous food movements, like citizen collectives
- Family-based projects in need of places to sell their products
- Family-based looking to reconnect with the activities of their ancestors
- Projects that are mostly community-based or integrated by a small group of people from the same locality
- Professionals that changed professions
- Chef based and specialised
- Small-scale entrepreneurs looking for additional income
- Representatives of producers from other states of the country
- People with an alternative product in search of a venue to sell
- Projects with a very distinctive product that does not fit in other shops
- Representatives of indigenous communities, bringing their products as a way to give them additional income

The AFMs that constituted the two case studies present the probably most predominant views around food in Mexico City. The AFM01 follows an organic vision, this is manifested in the market name and the seeks to disseminate the importance of a standard, expressed as a certification, and aims at a more organised scheme of food production. The AFM02 claims a more inclusive and local character, the production visions range from the organic to the artisanal. I mention these two positions because of the representativeness in the food system of Mexico City, it is well known that the “organic” term is trendy, but also that it tends sometimes to be elitist, in such cases the “alternative” one covers the rest of the producers that want to contribute to a more just and sustainable food system.

In consequence, the meanings emerging from the AFMs range from the organic, more standardised and upper end offer of products, to the more artisanal and local. It is important to mention that even these visions exist in other venues, the products offered in the AFMs are less standardised than the ones of organic boutique shops but more than those offered by vendors who sell on the streets. This represents a niche that AFMs fill in terms of the reconnection between those small-scale producers that without a formal venue would probably not have a channel to show and sell their products. In this sense, AFMs are also a window and a point of

reconnection that generate compassion and appreciation for small-scale producers and food that otherwise would not be easy to find in Mexico City.

I observed during the research around five different project types within the AFMs with different degrees of conventionalisation. The ones with the highest adaptation and adoption of conventional practices are the ones tending towards entrepreneurship, health and specialised shops, most of them seen at the AFM01, probably because the organic certifications put them automatically in a higher-end of visibility in respect to consumers, but also present at the AFM02. On the other hand, the projects with the lowest conventionalisation are constituting new food movements, in forms already exposed like cooperatives with alternative currencies, generation of networks beyond the AFMs and shared-responsibility agriculture cooperatives that try to put into practice ideas of “Buen Vivir”. This spectrum could also be seen from the perspective of the concept of sustainability itself, while there are advocates of a “weak” sustainability, others prefer a “strong” approach.

#### 7.4.2 Research contributions

This section seeks to answer the research question 4, inquiring into the contributions of this research:

*RQ4: How can this thesis contribute to a better understanding of the potential of Alternative Food Networks from Mexico, as sites of practice, towards more sustainable food systems?*

This thesis intends to contribute to the body of literature on AFNs by understanding their emergence in Mexico City, their practices and principles, and potential contributions to sustainability. To date, only a small number of studies on AFNs have been carried in the Global South. The AFMs of Mexico City represent a solid example to study AFNs in a country where the revalorisation of food took started later as in developed countries.

The research contributes to the understanding of AFN emerging processes in Mexico, being a result of food movements from developed countries being assimilated by local ones. The research shows that the emergence of AFNs in Mexico follows some parallels to those in Europe and North America, but assimilation gave birth to distinctive context-based AFNs. The most widespread type in Mexico emerged in the form of markets, an origin referred by Chiffolleau, et al. (2016). As in Europe (Renting, et al., 2003), small-scale producers of Mexico were in search of a steady and fair income after the country entered the production of organics for exports, a situation that mostly benefited the large-scale, mechanised REU producers (INEGI, 2018). Food revalorisation and organic farming that promoted the emergence of AFNs in developed countries (Goodman, et al., 2011), were key to open the possibility in Mexico for small-scale



producers to supply organic products for the national consumers in similar ways. Existing food movements in Mexico on urban agriculture (AFM01) and urban food collectives (AFM02), assimilated these ideas and created their own venues to sell their products, resulting in Alternative Food Markets.

This research shows that a niche of organic foods for national consumption was suitable for small-scale producers, but they needed to bridge a gap with consumers. AFMs were the missing link to reconnect urban consumers with small-scale, family-based producers from rural and peri-urban areas across the country. The AFMs gathered in a nation-wide Network known as REDAC, that was an adept of organic production. It was a member of IFOAM and played a vital role in the creation of the Mexican legislation on organic production and certification. This shows that in an initial stage, there was an organised initiative in Mexico to bring all AFMs under the “organic” umbrella.

Both studied AFMs are based in the Central Mexico Megalopolis. They broadly have the characteristics cited by Darolt, et al. (2016), but are contextualised by local socio-economic factors. The first type of AFM is “alternative to industrialised organic”, its main importance is the creation of a three-state network of organic markets that work as nodes in a grid of small-scale producers. The research shows that the producers of this market have an entrepreneurial footprint, resulting in some degree of conventionalisation.

The second type of AFM emerged as an “alternative to organic”. It attempts to amend the socio-economic shortcomings of the “organic” seen in the country, which according to the organisers seemed to focus specifically in environmental criteria. This AFM gathers a wider spectrum of producers, who were at an earlier stage of consolidating their projects and therefore were not prone to conventionalise at the time.

The thesis contributes to the study of AFNs in the Global South by uncovering the backgrounds of the AFM producers. Of particular interest is the role of indigenous knowledge that appears in most cases as hybrid agroecological practices and principles. The study of agroecological practices can open new lines of research in different regions with different challenges, putting the producers at the centre of change and innovation. It is their knowledge that shapes AFNs. The understanding and revalorisation of their practices can be applied in the search of solutions to contemporary challenges, like climate change and malnutrition.

The AFMs hybrid agroecological practices and principles create bridges between the rural and the urban, offering a glimpse of both and adapted to their contexts. This creates trust and

embeddedness that not only benefits consumers, but creates welfare for the producers, their families and their communities.

The research contributes to the understanding of alterity. In her doctorate thesis “Agrarian Dreams? The Paradox of Organic Farming in California”, Dr Julie Guthman calls for a “Beyond Organic” vision after exhausting some promises of the “agrarian paradox” that she found in the organic farming of California (Guthman, 2000). In the book “The New Food Activism” (Alkon & Guthman, 2017), the authors reiterate that market-driven initiatives like farmers markets have shortcomings in the conversion of the agricultural systems. Since the Mexican AFMs emerged in the small-scale side of the production spectrum, they show that alterity is strongly based in the knowledge of family-based producers, who still keep a memory of the practices their families or communities had before the Green Revolution.

As a consequence, a closer look at the alterity in the hybrid agroecological practices of the Mexican AFMs unveils clearer perspectives on their potential contributions to environmental, social and economic sustainability. This field is promising and requires further research deeper into the producers’ networks probably using ethnosciences.

Another contribution is the role of Mexican AFMs in the creation of new food movements. Despite some projects following more conventional approaches conforming cooperatives and small business, a fraction of them has started to create food movements beyond the market-based alternative sector. This seems only possible after improving their livelihoods and productive infrastructure by coinciding at the AFMs.

The coexistence and most importantly, the dialogue between the alternative and the conventional are key to make small-scale producers, their products and knowledge more visible and applicable, and in the other way, favouring their interaction with other actors of the food system. For this purpose, the AFMs are ideal enablers of a middle way research between the celebratory and the critical AFN studies.

Linking the emergence, practices, principles and potential contributions to sustainability under a framework to study AFNs is also a contribution of this work. It was seen that one aspect is the consequence of the previous one, allowing an integrated understanding of AFNs.

Methodologically, the thesis contributes by testing a case study approach widely used in AFN research. The data was collected using semi-structured interviews and reinforced with workshops, contributing to the validity of a qualitative approach in the study of AFNs. The

possibility to conduct this project from a geographical stand, opens a number of pathways to continue the research on AFNs.

This research greatly benefited from taking place within the field of Geography, it was possible to approach the subject of study through fieldwork in an embedded situation. This allowed to distinguish the variations due to the location where the Alternative Food Networks were based and appreciate their cultural contexts. There is a respectable number of publications approaching alternative channels of food production and distribution from a supply chain perspective (Fabbrizzi, et al., 2014), but it seems that a network (Goodman, et al., 2011) and more specifically a geographical approach has been able to encompass most of its dimensions (Maye, et al., 2007), more recent works have been able to study the meanings behind food perceptions (Jackson, 2013). Overall, a geographical approach allows this research to set a cornerstone for future work in a versatile way, it allows to compare perspectives, take part in the solution of environmental and social issues, contribute to the pursuit of sustainability. At the same time, it opens the possibility to conduct further research in an interdisciplinary way, a common trend nowadays and add quantitative and spatial data.

#### 7.4.3 Research limitations

The research was based on case studies, an approach to provide a holistic, rich in context and in-depth understanding of a phenomenon of AFNs (Stake, 2008; Yin, 2009; Denzin, 2011, Michel-Villarreal, 2019), nevertheless it may raise concerns about the depth of the data collected and the applicability to markets from other latitudes. The selected case studies for this project followed the criteria by Darolt, et al. (2016) that matched to a higher extent the AFMs from Mexico seeking to investigate their characteristics. There were other similar markets within Mexico City with similar approaches, but the two selected were part of the REDAC Network, which has set a reference for this type of markets in Mexico. Both criteria added certainty to conduct the research. In a similar way, it would be necessary to understand the context, similarities and differences of other markets to establish the possibility to study them applying the findings of this research. As for other AFMs in Mexico, they usually resemble one of the two cases, organic or alternative. In other states the AFMs tend to aspire to be a high-end organic shop or offer products beyond the organic certifications. It is important to remember that there are other types of markets in Mexico, including the public, closer to conventional channels and the traditional, closer to indigenous communities. The tianguis, or itinerant markets, are also different. Between rural and urban areas, what possibly changes are the layout and the size, it is known that there are large alternative markets in other states. Recognising these differences could be useful when trying to apply the findings to other markets. It is not possible to

generalise, but the results could apply to certain extent to other types of markets and definitely to similar alternative food networks.

The best efforts were made to ensure the interviewees that their answers would be used only for research purposes. The documentation used during the research to inform the participants and ask for their approval to record the audio were part of the effort. Nevertheless, in some cases, particularly in the AFM01, it was difficult to get the interview or the interest of the producer. Another reason for this could have been the time of the visit, which was at the end of their working day at the market, or the fact that some of them were participating in the creation of the laws of organic production and certification and were tense to share their thoughts in an interview. A potential lack of trust could have emerged due to the frequent politization of agrarian topics in Mexico and the association some people make with commercial purposes. Surprisingly, in the AFM02, where the time of visit was totally flexible, I could build trust with the producers and eventually most of them agreed to an interview. The participants of the AFM02 were approached several times by postgrad students during these years, this could have made them more open to receive interviewers. In addition, the AFM02 developed online forms to request access to their activities and give a talk later in exchange. One would think that the producers would be eager to share stories and engage with visitors all the time, but the nature of their activities is demanding. Finding the optimal time for a visit and ensure the participants of the protection of their data is something to take into account for future projects.

A limitation that emerges from the findings and connects them to further research, is the relative low proportion of vendors from indigenous backgrounds. The project was conducted in Mexico City and it would be interesting to study in more depth a more traditional market where the indigenous knowledge would be in greater proportion. AFN practice relies in the knowledge of producers and embraces a wide range of innovations, but in the face of growing inclusion and challenges like climate change, urbanisation and conventionalisation, getting in touch with the indigenous knowledge that has made agroecosystems work for centuries becomes a matter of added importance.

#### 7.4.4 Recommendations for further research

The research calls to continue to work in the study of AFN hybrid agroecological practices and how they can contribute to the sustainability of food systems. A possibility could be to study the use of local knowledge in context-rich AFNs, paying special attention at the production sites.

Other research areas with potential would include a more in-depth study of the producers, this would probably need an ethnographic approach to secure more time at the sites of production

and discern from repetitive discourses, imaginaries and get in touch with the “deep Mexico” (Bonfil, 1987).

Several interviewees commented to be part of more than one distribution channel, it would be interesting to see if the type of venue has a long-term effect in the producer or if the alternative practices are adopted in more conventional ones. Mapping extended networks of producers and consumers would be a key aspect to consider.

The consumer side of the AFNs is evidently an area with potential. In this project I could see that the producers take very seriously the opinions, attitudes and comments of the consumers. As a process of mutual education around food, the consumer side of the AFNs in the Global South could complement current research on the producer’s side.

A couple of other suggestions for further research relate to conduct a study with AFNs of different countries. The organisers and founders of the two Mexican AFNs had some contact with organic markets and other activist movements from other countries, they got inspired by them. The exchange of knowledge has been accelerated by social media and sometimes travel, by giving the opportunity to producers of different latitudes to communicate and potentially collaborate.

A quantitative approach could take place in a similar way to Guthman (2014) to compare the state of the organic agriculture in two neighbour countries like the US and Mexico, first at large-scale organic production, then at smaller-scale.

Finally, it would be interesting to keep studying the AFNs of Mexico as they evolve, even maybe looking for patterns and coincidences with their counterparts from other countries. This would be an opportunity to study transitions in the context of agroecology and sustainability. As pointed by Tutino (2018), in Mexico there has been for a long time agriculture of resistance and conventionalisation, coexisting and struggling at the same time. In the case of AFNs, some of them may follow a more conventional trajectory while others may push the expected changes in food systems and social justice forward.

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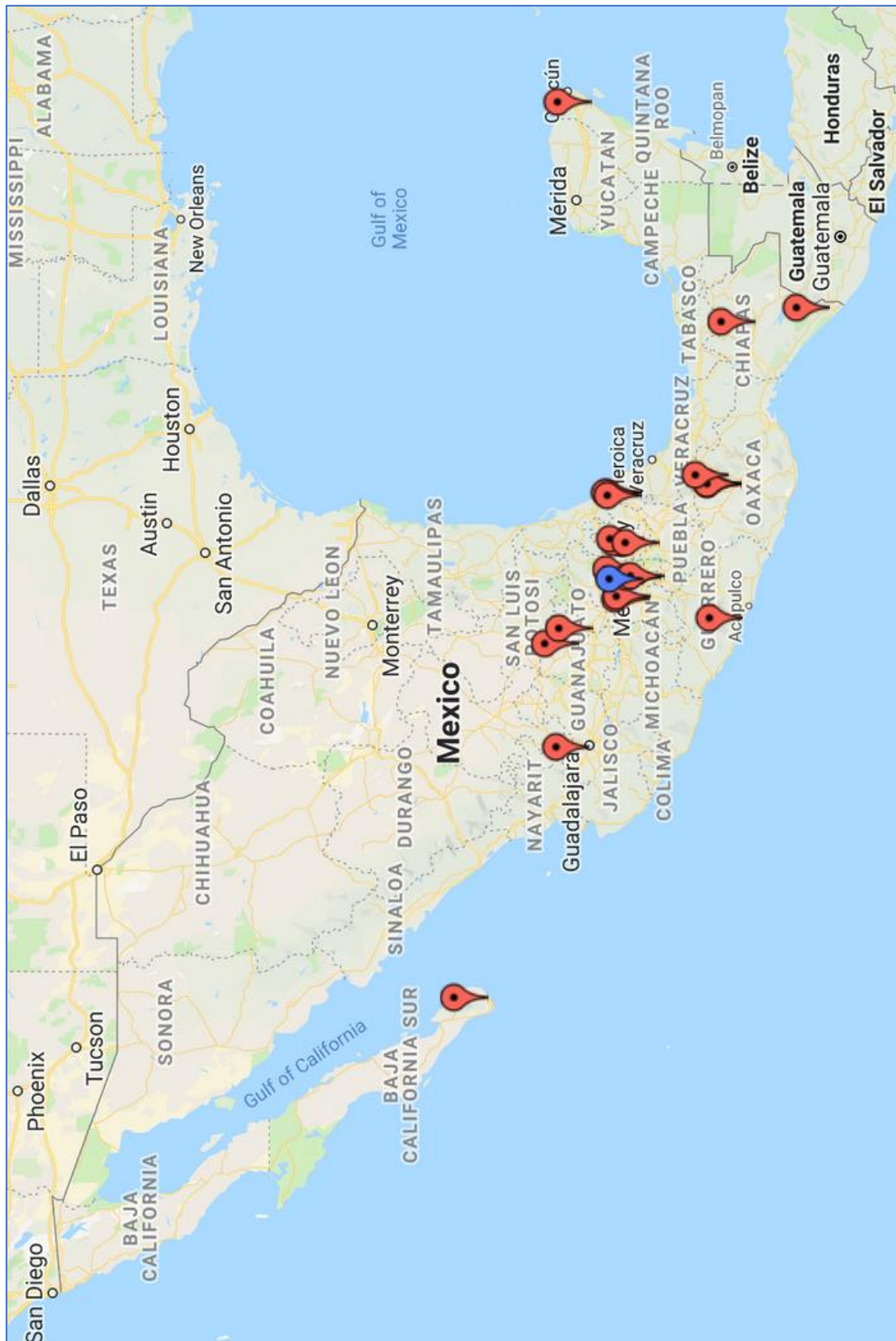
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## Appendices

### I. The Mexican Network of Organic Markets (REDAC)

Location of the markets, members of the REDAC (2016)



Tianguis and organic markets in Mexico. Source: <http://tianguisorganicos.org.mx/> (2016)



Organic markets in central Mexico. Source: <http://tianguisorganicos.org.mx/>

## II. Interview guide

The interview guide from 2016, in English.

<p style="text-align: center;">Guide for the Producers Interviews Translation from the Spanish V.02 (from 06 August 2016)</p> <p>Introduction to the researcher and project (R) R: Objectives of the pilot study and interview E0: Expected findings E0i: Why has the researcher attended to the AFM's to undertake the study</p> <p><b>Part I. The Producer (E)</b> E01: What is your name? E02: What is the name of your project? How many people take part in it? E03: How long have you been doing this activity (farming, producing and coming to the AFM)? E04: How did you start with this activity? How did you learn to do it (farming, producing)? E05: In how many venues do you offer your products? E06: How did you become a member of this AFM? E07: What have you learned during this time? E08: What challenges have you faced during this time?</p> <p><b>Part II. The Site of Production (S)</b> S09: In which neighbourhood or town is your site of production located? S10: Do you live in the same location where you produce? S11: What is the estimated time or distance between your production site and the AFM? S12: What kind of transportation do you use to bring the product to the AFM? Is it your own? S13: Are resources like water, energy, soil adequate and sufficient for your activity (cultivation/production)?</p> <p><b>Part III. Products and production (P)</b> P14: What products do you offer? Are they seasonal? P15: What is the most popular product (with clients) and why? P16: What are the benefits or advantages of your products compared to others distributed in a different way (conventional)? P17: How do you perceive the trends of amount of product purchased by your clients?</p>	<p>P18: How do you plan your production in terms of quantity? How do you decide the amount of product to bring to the AFM? P19: How long does it take you (approximately) to produce the amount of product that is brought to the AFM? P20: What do you do with the product you do not sell in one weekend (barter or own consumption)? P21: How do you compare the price of the product against others, distributed in a different way (conventional)? P22: Is the revenue sufficient to live? Do you have an additional job? P23: Have you perceived an effect related to climate change or (governmental) policies in your production activity?</p> <p><b>Part IV. Other questions (V)</b> V24: How is the communication/collaboration with other producers at local, national and international level? V25: How is the communication/collaboration with education institutions? Do you attend to, or give talks? V26: How are your clients? What do they ask to you and what feedback do they give to you? What kind of relationship is developed with them? V27: What should people know about you project and the AFM's? V28: Do you use email or social network?</p> <p><b>8ix:</b> To thank the producer for participating in the interview and good bye.</p>
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### III. Interviewees coding

Each transcript received an ID and the real names of the interviewees were anonymised.

	A	B	C	D	E	F	G	H	I
	ID	Alias	Name	Project	Market	Market ID	Date	File name	
1	Y01	Victoria				AFM01	10.07.16	160710_001	
2	Y02	Jesús, Ximena, Alberto				AFM02	10.07.16	160710_002	
3	Y03	Rogelio				AFM02	15.07.16	160716_001	
4	Y04	Miguel				AFM02	16.07.16	160716_002	
5	Y05	Augusto				AFM02	16.07.16	160716_003	
6	Y06	Magdalena				AFM02	16.07.16	160716_004	
7	Y07	Ana				AFM02	16.07.16	160716_005	
8	Y08	Benito				AFM02	16.07.16	160716_006	
9	Y09	Benito				AFM02	17.07.16	160717_001	
10	Y10	Benito				AFM02	17.07.16	160717_002	
11	Y11					AFM02	17.07.16	160717_003	
12	Y12					AFM02	17.07.16	160717_004	
13	Y13	Rubén				AFM02	17.07.16	160717_005	
14									
15	Y14	Ulises				AFM01	17.07.16	160717_006	
16	Y15	Blanca				AFM01	17.07.16	160717_007	
17	Y16	Ernesto				AFM01	17.07.16	160717_008	
18	Y17	Lupe				AFM01	17.07.16	160717_009	
19	Y18	Carolina				AFM01	29.07.16	160729_001	
20	Y19	Nacho				AFM02	31.07.16	160731_001	
21	Y20	Román				AFM02	31.07.16	160731_002	
22	Y21								
23	Y22					AFM02	06.08.16	160806_001	
24	Y23					AFM02	06.08.16	160806_002	
25	Y24					AFM02	06.08.16	160806_003	
26	Y25	Laura				AFM02	06.08.16	160806_004	
27	Y26	Juan				AFM02	06.08.16	160806_005	
28	Y27					AFM02	06.08.16	160806_006	
29	Y28					AFM02	06.08.16	160806_008	
30	Y29					AFM02	06.08.16	160806_009	
31	Y30					AFM02	06.08.16	160807_001	
32	Y31					AFM02	06.08.16	160807_002	
33	Y32					AFM02	07.08.16	160807_003	
34	Y33					AFM02	07.08.16	160807_004	
35	Y34	Leonardo						160811_001	
36						AFM01	11.08.16	160811_002	
37								160811_003	
38	Y35	Jacinto				AFM01	11.08.16	160811_004	

Anonimising the interviewees

## IV. Evernote tags for coding

A series of thematic codes were created in Evernote.

+ Nueva Etiqueta	
Buscar etiquetas	X
<b>A</b>	<b>A (cont.)</b>
AO. Article Origin	AT. agriculture history (1)
AO. Belgium (1)	AT. agri-food (5)
AO. Chapingo (24)	AT. agrifood theory (7) (1)
AO. Colombia (2)	AT. agroecological transitions (1)
AO. FAO (8)	AT. agroecology (106)
AO. Germany (2)	AT. agroecology AND farmers markets (4)
AO. FOAM (1)	AT. agroecology AND sustainability (6)
AO. IPBES (3)	AT. agroecosystem (1)
AO. Latin America (1)	AT. agronomy (2)
AO. Malaysia (1)	AT. alternative food markets (5)
AO. Mexico (16)	AT. alternative food networks (73)
AO. Sagrapa (2)	AT. articles citing Hedberg 2016 (4)
AO. Sederol (1)	AT. asset valuation (5)
AO. Spain (1)	AT. banco de alimentos (1)
AO. UAEM (1)	AT. bibliografía (1)
AO. UK (1)	AT. biocultural (39)
AO. UN (4)	AT. biodiversity (3)
AO. UNAM (2)	AT. biodiversity loss (2)
AO. UoG (11)	AT. Brazil (2)
AO. USA (1)	AT. camera use (5)
AO. Veracruz (1)	AT. Canada (3)
AO. wikipedia (2)	AT. capability approach (3)
AO. wikipedia (2)	AT. capacity development (2)
AO. wikipedia (2)	AT. capacity development (2)
AO. wikipedia (2)	AT. case study (18)
AO. wikipedia (2)	AT. causal loop diagrams (5)
AO. wikipedia (2)	AT. CDMX (14)
AO. wikipedia (2)	AT. central de abasto (11)
AO. wikipedia (2)	AT. certificación participativa (3)
AO. wikipedia (2)	AT. challenges (13)
AO. wikipedia (2)	AT. Chapingo (1)
AO. wikipedia (2)	AT. China (2)
AO. wikipedia (2)	AT. ciudad de México (56)
AO. wikipedia (2)	AT. climate change (32)
AO. wikipedia (2)	AT. coffee (1)
AO. wikipedia (2)	AT. ecosystem services (4)
AO. wikipedia (2)	AT. colonización / agricultura (1)
AO. wikipedia (2)	AT. community topics (2)
AO. wikipedia (2)	AT. competitiveness (1)
AO. wikipedia (2)	AT. comunidades indígenas MX (5)
AO. wikipedia (2)	AT. conceptual models (2)
AO. wikipedia (2)	AT. conference (1)
AO. wikipedia (2)	AT. conocimiento ecológico tradicional CET (8)
AO. wikipedia (2)	AT. consumers (5)
AO. wikipedia (2)	AT. controlled environment (1)
AO. wikipedia (2)	AT. convention theory (1)
AO. wikipedia (2)	AT. conventional agriculture (4)
AO. wikipedia (2)	AT. conventional farming (1)
AO. wikipedia (2)	AT. conventional food (4)
AO. wikipedia (2)	AT. conventionalization (3)
AO. wikipedia (2)	AT. cooperativas de México (1)
AO. wikipedia (2)	AT. cooperatives / cooperativism (4)
AO. wikipedia (2)	AT. corredor biológico Chichinautzin (8)
AO. wikipedia (2)	AT. corredores biológicos MX (1)
AO. wikipedia (2)	AT. cosmovisión México (1)
AO. wikipedia (2)	AT. criticism (1)
AO. wikipedia (2)	AT. CSA (6)
AO. wikipedia (2)	AT. cultural economic geography (1)
AO. wikipedia (2)	AT. cultural geography (1)
AO. wikipedia (2)	AT. Czechia (3)
AO. wikipedia (2)	AT. database (1)
AO. wikipedia (2)	AT. diario oficial de la Federación DOF (3)
AO. wikipedia (2)	AT. dynamic capabilities (71)
AO. wikipedia (2)	AT. dynamics of food (5)
AO. wikipedia (2)	AT. eating (1)
AO. wikipedia (2)	AT. ecología política (1)
AO. wikipedia (2)	AT. ecological agriculture (1)
AO. wikipedia (2)	AT. ecological restoration (7)
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AO. wikipedia (2)	AT. Ecuador (1)
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AO. wikipedia (2)	AT. entrepreneurship (4)
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AO. wikipedia (2)	AT. ethnobotany (1)
AO. wikipedia (2)	AT. ethnoscology (11)
AO. wikipedia (2)	AT. ethnography (2)
AO. wikipedia (2)	AT. ethnosciences (8)
AO. wikipedia (2)	AT. etnoagronomía (23)
AO. wikipedia (2)	AT. etnoecología (39)
AO. wikipedia (2)	AT. European Union (5)
AO. wikipedia (2)	AT. excel file (1)
AO. wikipedia (2)	AT. family farms (27)
AO. wikipedia (2)	AT. FAO (7)
AO. wikipedia (2)	AT. farmers (19)
AO. wikipedia (2)	AT. farmers markets (34)
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AO. wikipedia (2)	AT. farms (7)
AO. wikipedia (2)	AT. food and new technologies (1)
AO. wikipedia (2)	AT. food anxieties (2)
AO. wikipedia (2)	AT. food basket (1)
AO. wikipedia (2)	AT. food chemicals (1)
AO. wikipedia (2)	AT. food crisis (2)
AO. wikipedia (2)	AT. food demand (1)
AO. wikipedia (2)	AT. food economy (1)
AO. wikipedia (2)	AT. food exports (1)
AO. wikipedia (2)	AT. food health (1)
AO. wikipedia (2)	AT. food justice (1)
AO. wikipedia (2)	AT. food markets (1)
AO. wikipedia (2)	AT. food miles (5)
AO. wikipedia (2)	AT. food networks (1)
AO. wikipedia (2)	AT. food politics (1)
AO. wikipedia (2)	AT. food prices (15)
AO. wikipedia (2)	AT. food producers (3)
AO. wikipedia (2)	AT. food production (2)
AO. wikipedia (2)	AT. food quality (1)
AO. wikipedia (2)	AT. food risks (1)
AO. wikipedia (2)	AT. food security (17)
AO. wikipedia (2)	AT. food sovereignty (3)
AO. wikipedia (2)	AT. food supply (10)
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AO. wikipedia (2)	AT. food value chains (1)
AO. wikipedia (2)	AT. food waste (5)
AO. wikipedia (2)	AT. forest restoration (1)
AO. wikipedia (2)	AT. forestaría análoga (1)
AO. wikipedia (2)	AT. framework (4)
AO. wikipedia (2)	AT. fresh food (1)
AO. wikipedia (2)	AT. fuel shortage and food in MX (27)
AO. wikipedia (2)	AT. futuristic farming (1)
AO. wikipedia (2)	AT. gender perspectives (1)
AO. wikipedia (2)	AT. general systems theory (12)
AO. wikipedia (2)	AT. geography (13)
AO. wikipedia (2)	AT. geography + discoveries (3)
AO. wikipedia (2)	AT. geography + economics (2)
AO. wikipedia (2)	AT. geography + history (1)
AO. wikipedia (2)	AT. geography + mathematics (1)
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AO. wikipedia (2)	AT. globalisation (1)
AO. wikipedia (2)	AT. glossary (1)
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AO. wikipedia (2)	AT. green food (1)
AO. wikipedia (2)	AT. green revolution (6)
AO. wikipedia (2)	AT. health + food (1)
AO. wikipedia (2)	AT. health and public health (1)
AO. wikipedia (2)	AT. Hernández Xolocotzi (3)
AO. wikipedia (2)	AT. hipsters and food (6)
AO. wikipedia (2)	AT. human agency (1)
AO. wikipedia (2)	AT. human geography (5)
AO. wikipedia (2)	AT. indigenas (1)
AO. wikipedia (2)	AT. Indonesia (1)
AO. wikipedia (2)	AT. industrial ecology (4)
AO. wikipedia (2)	AT. inflación alimentaria (10)
AO. wikipedia (2)	AT. informal urban settlements (2)
AO. wikipedia (2)	AT. innovation (6)
AO. wikipedia (2)	AT. Ireland (1)
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AO. wikipedia (2)	AT. key articles (33)
AO. wikipedia (2)	AT. knowledge (1)
AO. wikipedia (2)	AT. labor (2)
AO. wikipedia (2)	AT. Latin America (8)
AO. wikipedia (2)	AT. lit review (4)
AO. wikipedia (2)	AT. livelihoods (2)
AO. wikipedia (2)	AT. local food systems (7)
AO. wikipedia (2)	AT. local food/agric/system (59)
AO. wikipedia (2)	AT. local foods (2)
AO. wikipedia (2)	AT. local marketing (1)
AO. wikipedia (2)	AT. local markets (1)
AO. wikipedia (2)	AT. maps & mapping (7)
AO. wikipedia (2)	AT. marine food networks (1)
AO. wikipedia (2)	AT. Mancism (1)
AO. wikipedia (2)	AT. mercados (1)
AO. wikipedia (2)	AT. mercados tradicionales (1)
AO. wikipedia (2)	AT. Mesoamericano corredor biológico (1)
AO. wikipedia (2)	AT. metabolismo social (38)
AO. wikipedia (2)	AT. Mexican diet (1)

## V. Interview coding samples

Interview coding was conducted first in Spanish, then the excerpts organised by theme and translated to English.

FRAGMENTO DE ENTREVISTA	Temas	¿QUÉ QUIERE DECIR?	COMENTARIOS (para análisis)
<p>MC: Bueno pues buenas tardes. Gracias por participar en la entrevista. ¿Cuál es su nombre?</p> <p>Mx: Eehh... La señora Maximina Jurado Muñoz y Sarai.</p> <p>MC: Y Sarai.</p>	<p>Gender woman</p>	<p>Es proyecto familiar donde la madre (Sra. Maximina) e hija (Sarai), están al frente de las ventas.</p>	
<p>MC: Muy bien, ¿cómo se llama su proyecto?</p> <p>S: Es un proyecto familiar y el... bueno, es un proyecto familiar <u>yy es este... Productos Mamoshca</u>... así es...</p> <p>MC: <u>Mamoshca</u>.</p> <p>S: Ajá, <u>Productos Mamoshca del Mamoshca</u>.</p> <p>MC: ¿<u>Cómo surge</u> este nombre?</p> <p>S: Eehh nombre surge a raíz <u>de la variedad de productos que tenemos que eehh...</u> engrana todo lo que es temporal y lo que es <u>este... la innovación de productos en alimento y la transformación de algunas cosas</u> que hemos realizado a base de los alimentos que... o de la... de los frutos temporales que tenemos en... en la temporada ahí en <u>Milpa Alta</u>.</p>	<p>Women leadership; family business;</p>	<p>Es un proyecto familiar, el nombre "<u>Momoxco</u>" se refiere (Wikipedia), a "una confederación de pueblos de origen náhuatl" que se encontraba en lo que hoy es Milpa Alta, eran pueblos <u>momoxcas</u>. "El corazón de la confederación se encontraba en el pequeño valle de Milpa Alta, entre los volcanes <u>Tláloc y Tsutli</u>."</p>	<p>Proyecto familiar donde la Sra. Maximina se encarga de las ventas y el esposo del trabajo de campo. Sin embargo, en otra plática, la señora Maximina comentó haber trabajado de más joven en una oficina (de gobierno) y luego retornó al trabajo de campo. También comentó que se levantan siempre muy temprano y que cuando el marido se encontraba cansado era ella la que salía de madrugada a cumplir con la faena.</p>
<p>MC: Muy bien. <u>Este...</u> ¿Cuánto llevan dedicándose a esto? ¿<u>Cuánto tiempo</u>?</p>			<p>Basan muchos de sus productos en las tres variedades de maíz locales. También en los nopales. De ambos elaboran/transforman otros productos.</p>

*Coding the interview transcripts in Spanish*

So, for that reason and because of the conditions of the space we tried to approach the previous delegate multiple times. They invited us once to sell to a fair organized by the delegation, of cheese and wine in Loreto and Peña *Córego* park, and then it was the moment when we were going to meet the delegate, we were supposed to be introduced to her and we were going to talk about the project. And nothing else, she arrived and got stuffed with cheese and oil, they only told her "oh, they are the ones from the market" and something else, then she showed zero interest, she only took a little interest in the cheese, took a lot of samples and left.

So was our contact with the delegate, we were very frustrated, I understand that the delegate had to attend many things, but showing no interest in anything? And that's it."

Visualizing Mexico City food production potential

"Another of the learnings has been to make the production of the Federal District [Mexico City] visible, because it has very special conditions, which, according to my perspective, no other city in the world has. First, it has a population of between 8 and 10 million people who are potential consumers, to some extent, but there is a strong group of potential consumers and in that sense, the Tlalpan delegation is the largest one in the city. So, we are located in a very strategic place, in addition, 57% of the territory of Mexico City is still rural, and although it is one of the largest cities in the world, more than half of its territory is rural, where there is forestry but there is also agriculture and one of the lessons is that we have been creating [something] of both. Because first we had 3 producers, or more marketers and 1 producer, 2 producers, and over time they have been approaching us or we have been talking to producers who are there and are not visible, and they are producing food that they usually produce in monoculture, in Tlalpan carrots, spinach, corn and fodder are produced, but there is a group of producers out there that is diversifying their production, like here Victor or Socorro that produces mushrooms, who have an immense variety of crops and have a whole history and a family tradition. And they are from Tlalpan."

No more space to incorporate more producers. Need for more AFMs.

"Something that also costs me a lot of work to ignore and I do not know if I should see it as a challenge, but it is a bit painful, is that an infinity of very valuable projects and very valuable producers have approached, who would like to be part of the market, but due to the conditions of space we are physically limited to a certain number and also because we do not dedicate ourselves full time to this, we have other projects, so it is very difficult for us to say no to producers and real projects that could be here completely.

Just today a lady who is a maize producer and has spent all her life producing it, arrived asking for her products and her processed things to be revalued, but really, there is no space. Then it's like the need to create other spaces like this, that could link other producers."

Growth of the AFM02. Rescuing the locality. Expanding not physically.

"Well, an expansion phase has just happened, on May 8 this space was inaugurated in the Bosque de Tlalpan, I think that due to the fact that the market takes place on weekends, it would be difficult to have another expansion, because we would need one more day. In that sense, no, we would not see it yet and I think that it is not the idea either. Rescuing the locality has to do with the fact that a market does not have to follow the expansion pattern followed by large companies. Then I think that for now it is in a stable moment, that two venues are occupied in the two days of the weekend."

"We have not visualized a physical expansion soon because we just went through one, but in our ideas, in the long term there is an expansion of the experience, that is to share what we have lived here, the challenges and difficulties, and the failures too, I think that's it. We have thought of a manual for people who would endeavour into the task of organizing other markets with these characteristics. We also have the idea of networking a lot more with the markets that already exist in the Republic and in Mexico City who share this vision, then I believe in that type of expansion of our medium and long-term objectives."

"Rather diversify, we do think in an expansion but not in physical terms, but rather to diversify the work of the market, that expansion does not translate into a space with new producers, but I do not know, we have thought about it and we have brainstormed, but it could be, I do not know, a series of consulancies or connecting producers, but no longer in the format of a physical space."

Finding the producers. Stages. Social networks. Going to other AFMs.

"Well, maybe in the first editions we were like 10, now we are 38, it happened in several stages. First, we made a great diffusion in social networks and that is how many who sent us their proposals came. At the beginning we did not have anything, we only saw the proposal, more or less we saw the project, we decided with certain guidelines if it did or did not enter. Then we did an entry questionnaire where we asked those who aspired to enter the market to fill certain information that told us if it was definitely a viable project to incorporate it, or not. And then there was an expedition stage, we went through all the markets, well, almost all the markets that exist in Mexico City with these characteristics, and we were looking for the projects that interested us to invite them, like that, word of mouth.

Then, the projects that were already part of the market were also in networks with other projects and had contact, so they were arriving, but by word of mouth.

And now, in reality, there is no need to do any call for producers, because they arrive on their own because of recommendations or because they already have some visualization of the market. They already know this world."

The assortment of products. Origin.

"One of the objectives was not to turn the market into a bazaar or a craft bazaar, but to really offer an alternative to the consumption of food, it has always been about that, it is food and some other projects, the minimum, that have some link with the use of biodiversity and that make crafts, or other kinds of things. But it is primarily food and we have stayed that way, we have always tried to cover the basic basket, there are products that we do not have because it is a bit difficult, like sugar and other things whose production is hoarded and needs a different.

We do not have certain products, but in general we cover the entire basic basket, now the market is made up of 13 direct, primary producers, like 19 transformers and 5 marketers. That is the general picture. And a third of these 38 are from Tlalpan, the other great majority is from Mexico City and we have about 4 or 5 projects that come from the State of Mexico."

Barter

"J: There is no guideline as such, what happens is that at the end of the market almost always exchanges are made between the producers. That is up to each person and is what happens. Actually, it is also solidarity, when there are some products left we try to sell them in the week to our families or see find a way, especially with the perishable products, the others are not so much

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