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MSc Thesis, MST Food Technology

Organizational structures of alternative food networks fitting sharing economy principles.

– Case studies from Valencia.



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Abstract

Although sharing economy activities in the agricultural and food sector remain a niche compared to mainstream agricultural and food supply chains, they are emerging in Europe, the US and Australia with comparable organizational frameworks that have been broadly defined as alternative food networks (AFNs). The high context-specificity of the distinct AFNs evidences the need to understand and clearly define the infrastructure, distribution and network options of the AFNs towards up-scaling (Ohberg, L., & CoDyre, M., 2013). By conducting a case study in the city of Valencia, Spain, this research contributes with valuable information on what AFNs are, how they are created and evolving.

As a step forward to conceptualize the AFN initiatives as sharing economy systems, this research looked at the AFNs from an organizational point of view. For this purpose, two main lenses are applied in this thesis. First, a new institutional economics perspective describes the governance modes of market, hierarchy, hybrid and network; and provides the necessary governance mechanisms to distinguish them, being resource pooling and contracting. Second, this work analyses the extended AFNs models in Europe/Japan in order to identify the main elements that shape the organizational structures of existing AFNs and describe these in Valencia accordingly.

The results found that the researched AFNs in the urban and peri-urban area of Valencia fit the sharing economy systems. A three clusters categorization of the researched AFNs based on their most relevant organizational elements is proposed. Cluster 1 “Own consumption community gardens”, Cluster 2 “Commercial community gardens” and Cluster 3 “Consumer groups”.

Keywords: Sharing economy, Alternative food networks, Community gardens, Consumer groups, Organizational structure, Resource pooling.

List of abbreviations

Abbreviation	Meaning
AFNs	Alternative Food Networks
CSA	Community Supported Agriculture
SPG	Solidarity Purchase Groups
AMAP	Association pour le Maintien de l'Agriculture Paysanne
MCA	Multiple Correspondence Analysis
HCPC	Hierarchical Clustering on Principal Components
US	United States
UK	United Kingdom
EU	European Union

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1. Introduction

1.1 Background and problem description

Car or bike sharing programmes, clothes swapping or tools sharing groups, accommodation exchanges, co-working spaces, community gardens, and food or renewable energy cooperatives are examples of sharing economy that are spreading worldwide (Orsi, J., 2013). Many forms of sharing economies have gained popularity via online marketplaces; for example, “Spotify” for music streaming, “CouchSurfing” for accommodation exchange or “Wikipedia” for knowledge sharing. Despite of its increasing acceptance, the concept of sharing economy is still considered to be new and not yet uniquely definable (Orsi, J., 2013 and Botsman R., 2013). However, sharing economies have all recognized certain characteristics and consider collaborative consumption to be the crucial aspect. A term characterized by the participation of individuals in activities like sharing, trading, or renting among others which leads on to collectives making use of common goods and resources to save time, money or contribute to better environmental practices (Botsman & Rogers, 2010).

The concept of sharing economy refers in this research to economic and social models based on sharing goods and services while diminishing the need of ownership (Botsman and Rogers, 2010; Gansky, L., 2010). “These activities are tied together by a common means (harnessing the existing resources of a community) and a common end (growing the wealth of that community)” (Orsi, J., 2013). Although sharing economy in the agri-food sector remains a niche compared to mainstream agricultural and food supply chains, they are emerging in Europe, the US and Australia with comparable organizational frameworks that have been broadly defined as alternative food networks (AFN). AFN are innovative models of food provision based on the engagement of multiple economic actors, often farmers and consumers, attempting to achieve higher mutual benefits than the ones offered by mainstream food market systems (Tregear, A., 2011; Cembalo et al. 2012). From a global geographical perspective, various countries have developed or imported the most suitable form of AFN fitting their own particular environments like the *Teikei* in Japan, Community Supported Agriculture (CSA) in the US and the UK, *Association pour le Maintien de l’Agriculture Paysanne* (AMAP) in France, *L’Agriculture Soutenue par la Communauté* in Canada and Solidarity Purchasing Groups (SPGs) in Italy. In 2011, eighty trading CSA farm models and eighty more underdeveloped versions were mapped in the UK. Rapid CSA growth in the UK took place from 2009 to 2011 due to the support of different associations and funding (Soil Association report, 2011). Moreover, evidence from the US (Galt, R. E., 2011) and France (Soil Association report, 2011) shows an accelerating growth of CSA and AMAP, especially in the most recent years. In France for example, the first AMAP initiatives appeared in 2001 and nowadays approximately 3,000 farms are established according to this model across France. Whether these initiatives could be up-scaled or transferred outside of Europe is still uncertain.

Similar to other sharing economy systems, AFNs are formed by a heterogeneous group of actors which have the sharing of a specific set of values around food as central motives (Pascucci, S., 2010). Yet, not all AFNs have the identified features of sharing economies. Widely studied models of AFNs such as organic food markets and farmers’ markets are not based on pooling complementary resources for food production and distribution; they are rather based on one party (the producer) producing and distributing the product, and another party buying it, thus without resource sharing (Migliore et. al., 2012; Renting et. al., 2003). The scope of this research, however, is limited to the AFNs which are built by a community of actors that share resources and coordinate with distributed power relying on trust as a core. In other words, AFNs that fit in the principles of sharing economy like for example, CSA groups, community

gardens or kitchen gardens among others (Orsi, J., 2013).

At least three reasons are said to have led to the appearance of sharing economy systems. First, experts believe that they arose from an ideological opposition to the principles of a monetary-based economy (Baum, R., 2009). In the agri-food sector in particular, the participation of consumers in different AFNs is also being motivated with an increased distrust in the fairness and quality of large corporations' brands (Gansky, L., 2010). Second, the environmental pressures require different models that can deal with an uncertain future frightened by the climate change and the shortage of natural resources (Goodman, D., 2003). The need to ensure food security by providing availability, access and safe and nutritious food brings an interest to focus in innovative food channels (Smith & Miller, 2011). The exponential population growth is a threatening factor for the stability of the actual model of production and consumption (Ramankutty et. al., 2002). Therefore, and together with the lack of transparency of the actual systems, consumers are turning into producers so they can ensure the quality of the produce (Colding & Barthel, 2013). Third, the economic crisis is hampering the access to primary goods and services due to price inflation, salary reduction and large unemployment rates (Goodman, D., 2007). The food prices for example, presented over an 80% increase from 2006 to 2008 worldwide (Loewenberg, S., 2008). It is a fact that in times of economic depression or crises the allotment areas and/or community gardens increases in number (Colding J., 2007).

Despite a wide number of compelling reasons for re-organizing and re-thinking mainstream systems, sharing economy systems are still a niche relative to mainstream systems. Then, why are they not emerging more rapidly? The goal of this research is to contribute to tackle this broad question. More specifically, the question that acts as a starting point for this research is: what are the organizational and institutional bottlenecks that limit the outreach of sharing economy systems in the agri-food sector in Europe and beyond? One of the most investigated institutional bottleneck preventing the expansion of sharing economy systems is the existing EU policy framework. The lack of a specific legislation that applies to sharing economy systems leads in important constraints to even formalise a SPG or CSA in many countries from a legal point of view (Business Innovation Observatory EU, 2013; European Sharing economy Coalition, 2013). Accordingly, several policies or restrictions have caused the appearance of informal or sometimes illegal forms of food systems within and around the cities (FAO, 2007). This constitutes a significant bottleneck that constrains the efficient development of the different AFNs towards growing and expanding.

Nonetheless, a review into the AFNs in an urban European context showed that it is a relevant phenomenon spreading in many different forms like CSA and farmer-consumer groups (Atkinson, A., 2013). CSA designates a form of agriculture in which farmer and consumer create a partnership and therefore share the risks and the benefits of each harvest. The consumer generally joins as a member, pays in advance for the food and sometimes volunteers to work in the farm. As a reward they receive a share of the harvest every week which is ensured by the farmer to be fresh and high quality produce (Schnell, S. M., 2007). However, the legal positions of CSAs in different European countries are a clear example of the above mentioned institutional bottleneck. The outputs of the first European meeting on CSA held in 2012 in Milan, stated a general illegal status for the CSA initiatives in countries like Austria, Slovakia and the UK. Moreover, the rest of the CSA models of the analysed countries in the European meeting were coexisting in grey areas of the law by adopting alternative or innovative forms of activity.

Likewise, from an organizational perspective, different studies (Murtagh, A., 2010; Ohberg, L., & CoDyre, M., 2013) claim the lack of appropriate knowledge to understand the internal organization among

members in the distinct AFNs. In the report of the first European meeting on CSA (urgenci.net), clear differences appeared in the level of activity and network development of the CSA groups that attended the meeting. This recent evidence demonstrates the necessity of: (1) mapping the different sharing economy systems in the agricultural and food sector, highlighting their similarities and differences; (2) establishing a clearer definition of the different features involved in the different AFNs to be able to replicate them in other contexts, countries and sectors. Moreover, the expected population growth in urbanized areas, with a prospect of 3 billion people more by 2050 (UN, 2011), brings an opportunity to focus the research on AFNs that are located in urban and peri-urban areas. In addition, cities are areas with a high population density and with high consumers' demands, all of which facilitates the appearance of AFNs in metropolitan areas (Glaeser et. al., 2001).

This study aims to contribute to the literature on sharing economy systems in the agri-food sector by conducting a case study in the city of Valencia, Spain. The high context-specificity of the distinct AFNs evidences the need to understand and clearly define the infrastructure, distribution and network options of the AFNs towards up-scaling (Ohberg, L., and CoDyre, M., 2013). This research conducts an analysis on different AFNs characterized by the principles of sharing economy in the urban and peri-urban area of Valencia, Spain. By analysing the different AFNs using an organizational theory perspective, valuable information on what AFNs are and how they are created and evolving is expected to be obtained. Next to it, organizational theory has the potential to explain why groups of similar actors involved in similar AFNs follow different strategies (Tregear A., 2011). The final goal is to develop a classification system that could be used to implement or improve different types of AFNs according to the specific needs and particular environments of each place. For this purpose, in this research these concrete forms of collaborative food consumption and production researched in Valencia will be defined and classified according to their different organizational settings.

1.2 Research questions

This research has one main research question which is answered by a set of four sub-research questions. In order to achieve the above mentioned objectives, i.e., to figure out bottlenecks that limit the outspread of the AFNs the following research question has been phrased:

What are the main types of AFNs fitting the principles of a sharing economy that exist in the urban and peri-urban area of Valencia, Spain, and their main commonalities and differences with regard to other European models?

The research sub-questions are:

RQ1: Which set of principles shape the sharing economy activities?

RQ2: What are the main characteristics of the most extended AFNs in a European/Japanese context, based on a literature study?

- a. The CSA in the UK;
- b. Consumer-producer partnership in France known as AMAP;
- c. The SPGs in Italy;
- d. The Teikei in Japan.

RQ3. What are the main organizational elements that characterize the different AFNs in the urban and peri-urban area of Valencia?

RQ4. What are the main commonalities and differences among the organizational elements of the analysed AFNs in Valencia and the ones in Europe/Japan?

1.3 Research framework

The research framework describes in schematic order the steps that need to be undertaken in order to achieve the goals established in the research objective (Verschuren and Doorewaard, 2005). Below, Figure 1 shows the proposed framework to develop this research.

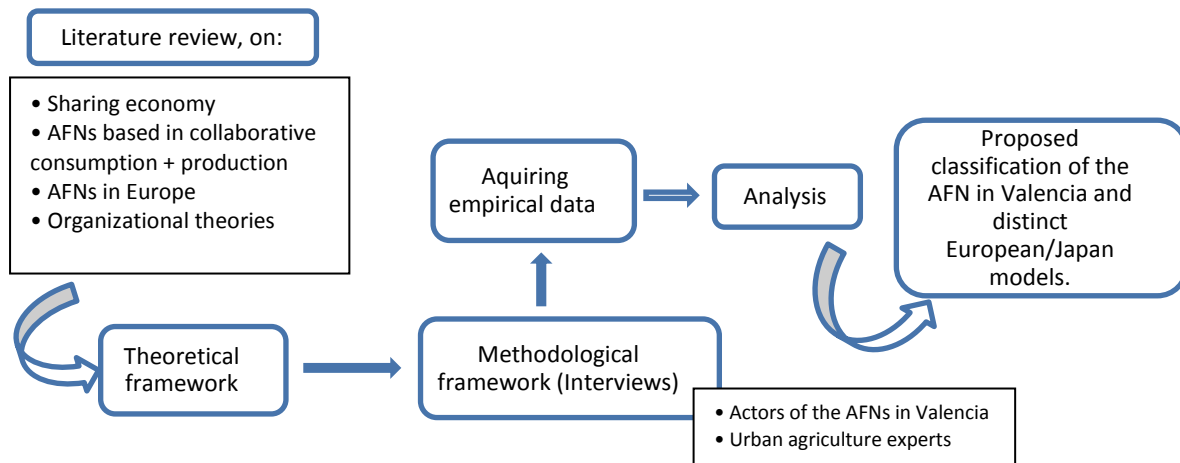


Figure 1. Research framework

The research framework is divided into four main sections; literature review, questionnaire development and sampling method, data collection and data analysis and propositions.

Literature review

To begin with, the literature study covers a general review on sharing economy and AFNs based in collaborative consumption and production. It is of crucial importance to define the characteristics of the sharing economy systems and the urban agriculture models to determine and delimit the AFNs that will be sampled in this study. Next to it, the most extended European/Japanese AFNs will be analysed with the goal of providing suitable information that allows a comparison with the AFNs studied in Valencia at an organizational and structural level. To finish with this section, a review on the distinct organizational theories is performed to determine a systematic methodology that will allow the identification of the internal features and structures happening in the researched AFNs. The information gathered from the literature study will be transformed into the theoretical framework.

Questionnaire development and sampling method

The information gathered in the literature study will be processed to develop the structure of the interviews. In this way it can be ensured that the interview questions will be properly designed to obtain the required empirical data for the research. The empirical research involves interviews with different actors (producers and consumers) in the selected AFNs in Valencia to understand the organizational structures that are occurring inside each particular model. An important aspect to be covered by the respondents of the interviews is a double check on the list of existing AFNs in Valencia to obtain the most complete valid sample for this research. This sampling method is known as the snowball sampling method.

Data collection and data analysis

The subsequent stage consists of the actual gathering of data and the analysis of the results. The data obtained through the interviews is intended to constitute a sufficient body of analysis to characterize the AFNs in the urban and peri-urban Valencia according to their different organizational elements. The collected data along with the theoretical lenses derived from the literature study, aims to provide a valid set of variables to analyse the findings. By following these steps an answer to the third sub-question can be provided after obtaining the results.

Propositions

As a final stage, a classification between the researched AFNs in the urban and peri-urban Valencia and the most extended AFNs in Europe/Japan, at an organizational level, is proposed. It is an aim of this research to provide an overview of the main commonalities and differences between these models. Accordingly, future researches, policy makers or actors involved in this type of initiatives can test whether the proposed variables are meaningful to the development and/or up-scaling of these AFNs.

1.4 General contextualization of Valencia

Valencia is a Spanish city located next to the Mediterranean Sea. The city itself has 814.208 inhabitants and an extension of 134,63 km². Moreover its metropolitan area presents a population of approximately 1.8 million which makes it the third biggest municipality of Spain after Madrid and Barcelona (INE, 2014). The climate is typically Mediterranean which means humid and without extreme temperatures. Valencia presents an annual average temperature of 17,8°C. The annual rainfall is above 450 mm, with a very dry season in summer (June, July and August) and maximums of rain from September to November (AEMET, 2014).

This particular features of the location, demography, climatology, territorial organization and planning makes Valencia a medium/large city scalable to numerous cities along the Mediterranean arch. Moreover, the Mediterranean arch between Andalucía and Italy's west coast is one of the areas expecting a major population growth within the European Union (PAT, 2014).



Figure 2. The Mediterranean arch

Valencia is a city constantly expanding, showing a dramatical growth since the 1950s. The enlargement of the urban area threatens the preservation of the Valencian orchard (figure 3). It is the interest of the research to investigate forms of urban and peri-urban agriculture that would be suitable to be integrated into future city plans.



Figure 3. Evolution of the urban Valencia (grey areas) and the Valencian orchard (green areas) through history. Source: Territorial Plan of Action of the Valencian Orchard.

The alternative food networks (AFNs) analysed in this research are placed along the metropolitan area of Valencia which presents 45 municipalities finding the furthest 18km from the city centre. 50% of the sampled cases are found around the metropolitan area and the other 50% are placed on different districts inside the city of Valencia. Accordingly, the researched sample in this work is considered to be placed in both the urban and peri-urban area of Valencia.

1.5 Outline of the report

This introduction chapter has presented the aim and objectives of the research together with a general background of the city of Valencia. Moreover, the research questions and the research framework performed to achieve the research objectives have been exposed.

The following chapter presents the literature review that was needed to provide a valid theoretical framework to guide the empirical work in this research. The first section of the literature study deals with the different conceptualizations and characteristics of the sharing economy systems. They constitute the required theoretical insights to provide an answer to the first research question, RQ1. Secondly, theories on the fundamentals of organizational governance are analysed, thereby aiming to contribute to the conceptualization of the AFNs in Valencia according to the goal of the research. Lastly, the most extended AFNs in Europe and beyond are presented with their most characteristic features. Hence, an answer to the second research question, RQ2 is provided.

Chapter 3 presents the methodology that was followed to first collect the empirical data and secondly analyse the results of this research. A case study was developed to inductively draw conclusions on the AFNs in the specific context of the urban and peri-urban area of Valencia. Semi-structured interviews were applied in this research in order to gain deep and detailed information on the different organizational structures surrounding the AFN initiatives. The qualitative research allowed following personalized structures and theoretical assumptions to explore similarities and differences across the different elements/categories. Hence, the data in this report presents the content of the cases that were possible to contact between March and April 2014 according to the selection criteria.

Next to it, chapter 4, reports the results of the empirical findings of the research and answers the third research question, RQ3. By performing different analyses based on the theoretical constructs exposed in the theoretical framework, a categorization of the ANFs in Valencia according to their different organizational structures is provided.

Chapter 5 corresponds to the research discussions. The chapter aims to answer the central research question. For that purpose, a typology of the AFN initiatives in Valencia is proposed based on the prior

results. Next, it describes how the empirical findings match or contrast with other AFNs experiences at a European/Japanese level. Furthermore, it provides an answer to the fourth research question, RQ4, and gives information on the limitations found to address it.

In chapter 6 conclusions and recommendations are presented. An overview of how this research contributes to the other literature on AFNs is displayed. Subsequently, a set of recommendations are provided to the actors involved in the initiatives and policy makers. Furthermore, recommendations for future research to strength managerial implications regarding AFNs and sharing economy activities in the agricultural and food sector will be presented. Finally, the consulted bibliography and appendixes are attached.

2. Literature review

This chapter discusses the results of the literature study and provides an answer to the first and second research question. The aim is to provide a theoretical framework that will guide the empirical research.

RQ1: Which set of principles shape the sharing economy activities?

RQ2: What are the main characteristics of the most extended AFNs in a European/Japanese context, based on a literature study?

- a. The CSA in the UK;
- b. Consumer-producer partnership in France known as AMAP;
- c. The SPGs in Italy;
- d. The Teikei in Japan.

To provide an answer, the first section 2.1 examines the different conceptualizations, definitions and characteristics of the sharing economy systems; section 2.2 analyses theories on the fundamentals of organizational governance; section 2.3 discusses the most extended AFNs and their most characteristic features. Lastly, the literature review concludes in a theoretical framework which is presented in section 2.4.

2.1 Sharing economy systems

The Sharing economy is becoming a mega trend all around the world. In the last decade many forms of collaboration have emerged in the business world contributing with new and different systems of commerce (P2P foundation, 2012). The market weight of these collaborative approaches remains a niche to the mainstream economic system still some of them are rapidly expanding. Collaborative models basically refer to a network of actors working together towards a common end. However, a first problematic arises to find the term sharing economy exchanged with collaborative economy, peer-to-peer economy or collaborative consumption in different academic networks. A collaborative economy despite having some common features with the sharing economy is not an identical approach (Botsman, R., 2013). Lisa Gansky, expert in sharing economy and author of *The Mesh*, clarifies this term and provides evidences on how the sharing economy has already rooted in our lives, is changing the way business and society rule (Gansky, L., 2014) and is already making pressure as a disruptive force to the main stream economy (Geron, T., 2013).

Times are changing and a shift in consumer attitudes and business models is happening. It is now possible to access all the goods once people had to own. The successful sharing practices are affecting some established business lowering the rate of purchases (Belk, R., 2013). Altogether, an increase in interest towards dis-ownership has been observed, as shown by the results of a research in more than 2000 American adults (Sunrun, 2013). Above 50% of Americans take part in sharing economy activities and more than 80% are willing to join those activities rather than buying a product (Sunrun, 2013). We are stepping in an era in which the people by owing less get more value (Jurich, L., 2013). A shift is occurring from individual ownership to shared access. Sharing is becoming the new owning (McColgan, S., 2010).

Common examples of these rapidly expanding initiatives are bike or car sharing, collaborative innovation networks, crowd sourcing, crowd funding, co-working spaces, community supported agriculture, among much others (P2P foundation, 2012). The first marketplaces such as CouchSurfing or Wikipedia had non-

profit goals, however the new sharing platforms have the potential to create profit, jobs and thus transform the economic system. Experts like Rachel Botsman and Lisa Gansky believe that those facts will not only affect the way we consume but also increase the interest of the established companies to change their business models from offering ownership to giving access; and from being guided by the voice of the company to becoming the voice of the crowd (Gansky, L., 2014; Sacks, D., 2011).

A detailed and organized overview in the expected revenues and growth of the sharing economy activities is recapitulated in the blog site of Jeremiah Owyang, an expert analyst in social media including collaborative economy (Owyang, J., 2013). As a reference of the growth of sharing economy, Frost & Sullivan predicts that car-sharing revenues in North America will achieve \$3.3 billion by 2016 (Sacks, D., 2011). Jaime Contreras assumed a potentially \$110 billion market for the collaborative consumption according to an article in MIT Sloan Expert (Contreras, J. & Snir, T., 2011). According to the results of the people who share on an adult survey population, the UK consumer earnings totalled £4.6 billion from May 2012 to May 2013. A 64% of the UK adults, or 32.4 million, now participate in the UK Sharing Economy meaning an increase of 5% amongst those sharing (The people who share, 2013). Rachel Botsman, author of *What's mine is yours* and the first to coin the term of collaborative consumption, states that the peer-to-peer rental market alone is worth \$26 billion (Standage, T., 2013). Different expectations, but either way figures showing how sharing economy activities that involve co-production, co-design, co-creation, co-working or collaborative consumption are becoming relevant from an economic point of view.

Various drivers, identified in several studies, have enabled the advent of sharing economy. Technology, global recession, community engagement and environmental concerns are the most sounded ones. (Gaskins & Stehfest, 2010; Botsman, R., 2013). An opportunity has been created by technology for the people to get connected, access to information and offer services or physical objects from which they can profit (Gaskins & Stehfest, 2010). Activities like renting an empty room, selling unnecessary products or opening online shops are just few examples of intelligent and efficient ways of sharing economy. This has empowered regular citizens and small enterprises to easily create a commercial exit with a low budget investment (Smith, S., 2014). Next to it, the cities have become the ideal platform for sharing. We live in small crowded spaces where less stuff can be gathered. The population growth projections and its effect to higher urban density have created a sparked interest to implement sharing initiatives inside the neighbourhoods (Gansky, L., 2011). The so-called sharable cities are happening, becoming more and more popular and establishing policies to adapt to these new approaches (Spitz, K., 2014). Some examples of these early movers are cities like Mexico City, Vancouver, Amsterdam, Barcelona, Seoul or Paris (Gansky, L., 2014). Another important driver is the cultural shift (P2P foundation, 2012). The coming generations, known as the Millennials, people born between the 80s and the early 2000s, in the age of technology, have a totally different mind-set. It is now considered normal to manage social interactions through online platforms; to own things is not a preference anymore while usage is. It is more likable to work in connection with colleagues and in open spaces, and there is a stronger communal view to build a resilience future (Derkson, R., 2013). Many factors are contributing towards a change in society and economy; and therefore to the building of a sharing economy.

Already different typologies and categorizations between the sharing economy systems co-exist. Among them, Rachel Botsman suggests a three-level differentiation; product service systems, redistribution markets and collaborative lifestyles (Botsman, R., 2013). Another arrangement is proposed by the Collaborative Economy Coalition as follows; peer to peer business models, crowdsourcing platforms, collaborative online markets and group purchasing platforms (Collaborative Economy Coalition, 2014). There is not a consensus to categorize the different collaborative platforms. In her book *The Mesh*, Lisa

Gansky offers a Mesh Sharing Directory with 25 sub-categories. Besides, another classification of sharing systems is provided according to the rivalry and exclusivity of the shared goods (Lamberton & Rose, 2012). Some activities involved in those groups can vary so much that different authors do not agree in their contribution to a sharing economy system (Smith, S., 2014). Several characteristics have to be taken into account in order to consider that an activity belongs to a shared economy. Differences need to be made between constructing a common object and just sharing; the diverse ownership models and; the governance and control processes as they might lead to totally different approaches (P2P foundation, 2012). Since definitions and classifications of sharing economies are so far scattered and to some extent inconsistent, it is valuable to first provide a definition with key features of sharing; then distinguish these features from the features of ownership; and lastly assess the governance of sharing systems.

2.1.1 Definition and key features of sharing economy systems

The concept of sharing economy refers to economic and social models based on sharing goods and services while diminishing the need of ownership for both monetary and non-profit interests (Botsman, R., 2013; Gansky, L., 2011).

On the basis of the existent literature, the six following features have been identified as common for the activities pertaining to a sharing economy system. First, a crucial aspect is the collaborative consumption, again a term of diverse understanding among researchers. It was first coined to refer to the participation of individuals in activities like sharing, trading, or renting among others leading in collectives making use of common goods and resources to save time, money or contribute to better environmental practices (Botsman, R., 2013). However, Belk Russell, an expert researcher on the meanings of possessions, collecting, gift-giving, sharing, and materialism, finds the definition of collaborative consumption stated by Botsman too broad, mixing terms such as marketplace exchange, gift giving, and sharing. Belk narrows down the definition and states that the collaborative consumption is people coordinating the acquisition and distribution of a resource for a fee or other compensation (Belk, R., 2013). The latter being a concrete and precise explanation that facilitates the identification of the different sharing economic activities.

Second, a pool of resources and services is shared to create value for them; the goal of the business goes beyond profitability (John N. A., 2013). The activities encompassed in this model are identified by two purposes; to be linked by common means (profiting from the existing resources of a community) and to work towards a common end (growing the wealth of the community) (Orsi, J., 2013). Third, the power is distributed among the different actors involved since they do not work as institutions with centralized models. The power is shifting to a network of individuals or communities that are getting organized in new and different ways (Botsman, R., 2013). Increasingly, the economic forces are emerging from the bottom up; the emphasis is shifting from the voice of the company to the voice of the crowd (Gansky, L., 2014). Fourth, the uniqueness of the sharing hinges on trust among the different individuals involved as they not necessarily know each other (Orsi, J., 2013; Botsman, R., 2013; Business Innovation Observatory EU, 2013). The different actors, clients or suppliers engaged with sharing economy activities or businesses establish meaningful relationships (Gold, L., 2003). Fifth, these models are built towards an innovative and more efficient utilization of assets like for example the unused resources (Orsi, J., 2013). Sixth, the sharing economies are happening between small economic actors, as it provides an opportunity for individuals to profit from their properties or skills (Orsi, J., 2013). For example in highly populated cities, ideal places for sharing platforms, the urban micro-entrepreneurs are now many (Gansky, L., 2014).

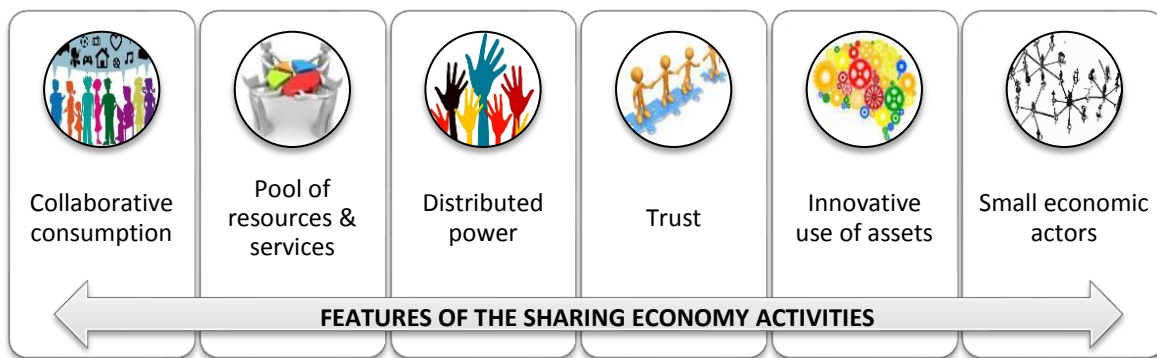


Figure 4. Features shaping the sharing economy activities.

In order to allow a common recognition of the sharing economy activities, the above principles are the ones that guide this research to that end. The six features will be tested in the alternative food networks (AFNs) studied in Valencia to check their fitting as sharing economy activities. Furthermore these AFNs will be compared with other extended AFNs in Europe and Japan to explore if they could be proposed as common features to sharing economy activities in the agricultural and food sector. However, to provide a common understanding of the sharing economy activities and subsequently be able to address the RQ1 further conceptual clarifications are required. Accordingly, the meaning of sharing and ownership among different authors is subsequently discussed to avoid disparity in opinions.

2.1.2 Sharing versus ownership.

The concepts of ownership and sharing are crucial to understand the state of the different economic activities. But again, the term of sharing is cause of diverse understandings and interpretations. The sharing activities imply joint ownership and/or usufruct rights; in contrast to other activities such as gift given or commodity exchange based on the transfer of ownership (Belk, R., 2010). Nonetheless, a wide range of different practices are concentrated under the concept of sharing (Belk, R., 2010). In words of Belk sharing implies “the act and process of distributing what is ours to others for their use or vice versa, receiving something from others for our use”. However the concept of sharing is quickly evolving and it has become an alternative to private ownership where the benefits or costs from owning something are being shared (Belk, R., 2007).

The social logistics of sharing, one of the latest papers dealing with the analysis of the concept of sharing in different spheres, concludes that sharing is seen as creating community particularly for the sharing economies of consumption. Sharing is conceived by the different actors involved as a type of communication (online sharing of links, photos, videos) or as a type of distribution (offline sharing of cars, bikes). The authors distinguish two types of economies of sharing: one of production, such as Wikipedia or Linux, mainly based on people sharing their work as well as shared inputs and outputs; and another one of shared consumption, in which the concept of sharing is used in two different ways, as equal access to common goods or as sharing properties with others (John, N. A., 2013). An attempt to establish clear differentiations of access in contrast to sharing and ownership has been recently developed (Bardhi & Eckhardt, 2012). The study builds a body of information through a detailed procedure of variables that shape access versus sharing or ownership. However, it also confirms sharing as an enabler of access and contributes to strengthen commonalities between access and sharing, since neither imply transfer of ownership (Belk, R., 2007; Bardhi & Eckhardt, 2012). Link of the relevance to analyse the different types of ownership among the existing resources involved in the sharing economy activities.

The above proves that to find a suitable categorization for the sharing economy is a laborious task. Already some typologies have been made according to different focuses, varying from a market perspective (Botsman, R., 2013), governance (P2P foundation, 2012, pp.47) or others (P2P foundation, 2012, pp.51); also like the Mesh Sharing Directory by Lisa Gansky (Mesh, 2014). In order to contribute to broaden the existing literature from an organizational perspective, the paper seeks to provide a categorization of the sharing economy activities according to the types of governance. Many sharing economy systems have broad organizational differences due to the ownership status of the different approaches. In detail, the common resources present diverse types of ownership as they can belong to commercial or non-profit companies, communities or individual participants (P2P foundation, 2012). It is one of the objectives to disclose in the sampled AFNs who own what and how the ownership of the different resources evolves with time; as a step to categorize the sharing activities in this paper work. Nevertheless, the body of theoretical information displayed around the topic of the sharing economy systems contains the appropriate information to answer the first research question (RQ1).

Next to it, the conditions of sharing are strongly dependent on the different agreements adopted by the participants (P2P foundation, 2012, pp.186). The permits or privileges inside the activities should be free, open and/or common-oriented to allow a collective control over the use of the resources (P2P foundation, 2012, pp.186). To understand how the different types of relationships among the actors involved lead to one or other type of initiative it is the aim of this research to review theories on the fundamentals of organizational governance (2.2). This brings us to the following section of analysis.

2.2 Organizational Governance

Governance captures the method and procedure of getting organized within a firm or organization. New Institutional Economics has created a large body of knowledge on how diverse types of governance can enable different transactions. This approach distinguishes three generic forms of governance organization, market, hybrid and hierarchy; by building on mechanisms of control, coordination and adaptation (Williamson, O. E., 1991). Williamson (1991) detected that contract law, adaptability, the use of incentive and the control mechanisms were four key attributes to shape the crucial differences among the governance structures on the three generic forms. The study of the different dimensions among the models allowed a consistent categorization to analyse, distinguish and typify among cases. On one side of the spectrum lies the market governance mainly characterised for its strong focus on the price system, where buyers and sellers adapt independently to obtain the major advantage from the least costly options. The agreements are strictly imposed by rules in contracts and it represents the most legal form of organization (Williamson, O. E., 1991). At the other end of the spectrum, hierarchy governance builds on the authority of one single actor or a group of leading actors. The main type of contract law used is that of forbearance, in which agreements between lender and borrower are managed. However hierarchy not only enjoys the advantages of bilateral agreements to face disturbances, it comes at a price. The need to coordinate investments causes the appearance of flat incentives in hierarchy, in contrast to the high-powered incentives that remain main figure in markets. Moreover, hierarchy has added administrative costs due to a focus in strong internal control to avoid undesired consequences (Williamson, O. E., 1991).

Notwithstanding, transactions have other critical dimensions that make them differ such as the frequency, uncertainty and degree of asset specificity involved in the transaction (Williamson, O. E., 1991). The analyses carried by Williamson (1991) highlighted how governance cost as a function of asset specificity increased in the three generic models of governance. Next to it, when taking into account disturbances of the institutional environment Williamson (1991) also proved how transactions vary and

shape the models as they lead to different agreements. The four distinguished parameters as core of the changing environment were property rights, contract law, reputation effects and uncertainty.

The polar models of hierarchy and market leave a wide range of initiatives based on intermediate arrangement forms and recognized in literature under the name of hybrid governance (Williamson O. E., 1991; Ménard C., 2004). The hybrid governance is happening between parties who keep different property rights and stay independent. Accordingly, three characteristics have been recognized to be common to the many different hybrid forms and independents of the diversity of agreements. Briefly pooling, contracting and competing (Ménard C., 2004). Hybrid forms tend to arise in highly competitive environments where merging partners that pool resources can benefit and strengthen both organizations. The primary motivation comes from achieving incentives. The main requirements for the functioning rely on ensuring a continuous relationship among partners as well as a proper communication channel. This is achieved with different contractual forms and monitoring mechanisms ranging from strictly formal to informal types (Ménard C., 2004). The difficulties faced by the models assume some contractual hazards: 1) not properly stipulated rent sharing, 2) enforcement issues or 3) an uncertain changing environment. The adopted agreements are thus of primary importance to determine the most suitable internal organization. Ménard (2004) proposed four types: “trust” informal but with a strong cohesion among parties; “relational networks” with tighter coordination, a club form; “leadership” with strong monitoring mechanisms and “formal government” very similar to hierarchy forms.

Last but not least is the network governance. It emerged and rooted in different industry sectors as a useful mechanism to gain economic advantage when complex products or services were involved in uncertain or competitive markets (Jones et. al., 1997). The network governance relies in social relations as the form of engagement among the different actors involved in the joint generation of a product or a service to ensure coordination and secure transactions. The key feature of this type of governance is present in the contracts model which does not refer to any legal or authoritarian form. However the agreements are far from trivial and do not exclude the existence of formal contracts. The network generally builds on persistent encounters that facilitate the existence of suitable patterns for frequent exchanges (Jones et. al., 1997). The interaction of four particular exchange conditions has been detected necessary for the network governance to arise and prosper. Briefly, consumer demand uncertainty, task complexity, customized exchanges with high human specific assets and the frequency of exchange. All in all, bringing a high need for network governance models to adapt, coordinate and safeguard exchanges (Jones et. al., 1997). A solution to overcome this needs is proposed by Jones (1997) according to diverse social mechanisms such as restricted access, macroculture, collective sanctions and reputations. Lastly, the study revealed that the network size is determinant for the optimal level of social connections, ranging from more tight to loose.

The knowledge accumulated around different types of governances with the lens of new institutional economics and transaction cost economics allows an overview on four generic modes of governance. It is the main goal of this research to discuss and categorize the different empirical cases of the AFNs in Valencia accordingly. Thereby, contributing to describe and shape the organizational governance of the sharing economy systems found in the urban and peri-urban area of Valencia. Additionally this analysis will allow a comparison of the researched models with the European/Japanese AFNs exposed below.

2.2.1 Governance of sharing systems.

The rationale of the gaps found in literature around the organizational governance on sharing economy systems are due to the novelty of the subject which still provides an incipient body of academic research.

Notwithstanding, it is important to think about the decision-making processes, composition and selection of governing bodies inside the organizations. It is the specific situation of each organization which will determine the most appropriate governing model to rule in order to best manage a common pool of resources (Nuñez, R., 2014). Who sets the rules, norms, conditions and procedures? The distinct forms of governance will have important effects in the functioning of the companies or organizations (P2P foundation, 2012).

Highly participatory governance is the most common structure established in the sharing economy systems. It is the procedure to best ensure that all the practices are considered to meet the multiple personal and community needs. For this purpose to achieve a fluent stakeholder participation is paramount and to consequently reach common goals and principles (Community Enterprise Law, 2014). The participatory governance models have been generally implemented with two different approaches for decision-making; the consensus decision-making and the Dynamic Self Governance or Sociocracy (Community Enterprise Law, 2014). The first one, depending on the closer or more distant relationships between the actors involved will imply a more or less formal decision making process. In this model the power to decide can be placed in one person (the leader, manager); in a small group (committee) or in the whole group. The two last cases usually have as protocols to take decisions one of the following approaches, by consensus or by majority vote. The consensus implies all members need to agree in order to reach a decision. This possible drawback comes along with the advantage of greater effectiveness and quality on the decisions, as well as stronger group connection. To determine and set planner roles, meetings, facilitators, and much more is essential to its functioning (Community Enterprise Law, 2014).

The second approach to participatory governance is the Dynamic Self Governance or Sociocracy implemented in multiple organizations all over the globe. It is characterized by an efficient and effective decision-making process that minimizes the tension around power. It is a powerful tool to create strong relationships and enhance creativity, the sense of belonging, engagement and commitment. The approach is also ideal to hold productive meetings with learning and improvement character. It is constituted by a hierarchy of interconnected circles, in which groups of people are organized for different works but not in control levels. The four basic principles that shape this model are consent; circles of equivalence (high involvement to set meetings and transparency); double-linking (to ensure the flow of information between circles); and elections (Community Enterprise Law, 2014).

Summarizing the above literature, decision making is a key parameter shaping the internal governance of the different approaches. Accordingly, it is an objective of this research to provide a precise clarification on which decisions are carried by whom on the different levels and how. On the one hand, the participatory governance is not considered as a specific model for categorization in this research but the four generic types according to a new institutional economic and transaction economic lens are referring to market, hierarchy, hybrid and network governance. On the other hand, it is a matter of analysis in this research to identify the diverse types of relationships among the different actors or stakeholders involved in the targeted sharing economy activities. It is the aim to contribute to the field of organizational structures in sharing economy systems by identifying how the different internal relationships lead to one or another governance model.

2.3 Alternative Food Networks (AFNs)

This piece of the literature study develops a body of information around the existing and recognized alternative food networks (AFNs). It is the purpose of this section to first provide a clear definition of the AFNs together with their most common characteristic principles. Subsequently the information of each

specific case is process, beginning with an in-depth review on the most extended AFNs in a European context (2.3.1 - 2.3.3) and leaving for last the case of Japan (2.3.4), pioneers in this movement.

Alternative food networks (AFNs) is a broad concept that refers to food system innovations with different rules and structures from production to consumption and selling than the ones of main stream supply chains. The main distinctive features rely on three commonalities; 1 the AFNs entail new ways of communication among the actors involved, 2 incorporate social and/or environmental values in the food chain and, 3 create and share meanings around food (Brunori et. al., 2012). AFNs have established innovative infrastructures with the support of new technologies to perform the above features and create a greater freedom of choice than the determined by the main supply chain. In some cases, the participants even take part in the food production decisions. In short, the stakeholders involved for their different reasons are part of a movement that creates an alternative to the big food players and push towards a change in the food system. These models have created a completely new food network that is performing pressure from the political, business, academic and civil society perspective to reconstruct the standard food systems (Brunori et. al., 2012).

Distinct countries have created or imported the most suitable form of AFNs according to their different environments: Teikei in Japan, Community Supported Agriculture (CSA) in the US and the UK, Association pour le Maintien de l'Agriculture Paysanne (AMAP) in France, Agriculture Soutenue par la Communauté in Canada, or Solidarity Purchasing Groups (SPGs) in Italy. In 2011, 80 trading CSA farm models were mapped in the UK and around 80 more underdevelopment. Attending to the statics, a big growth took place from 2009 to 2011 due to the support of different associations and funding (Soil Association report, 2011). Evidence from the United States (Galt 2011) and France (Soil Association report, 2011) shows an accelerating growth of CSA in recent years at even higher rate. In France for example, the first AMAP initiatives appeared in 2001 and in 2011 approximately 3,000 farms were established according to this model across France.

These numbers together with the set of positive points and circumstances that are benefiting the emergence of alternative food models (see Chapter 1), leads to the emergence of the following question, why are the AFNs not expanding faster? To address it, it is the focus of this paper to analyse the most extended AFNs in Europe and beyond. The goal is to identify the most relevant features around the distinct AFNs that are necessary for the sharing economy models in the agricultural and food sector to scale them up. This section provides an overview of the most extended AFNs models in distinct places around the globe, while focusing on Europe, by describing their most sounded characteristics. Aims to understand which variables are common and different from those alternative food models that got spread so a big picture can be gained for next analysis. It comprises a first part concerning the most sounded models in the developed world with the CSA in section 2.3.1; the AMAP in section 2.3.2; the SPGs in section 2.3.3; and in the last section (2.3.4.) the 'Teikei' in Japan to better understand the origin of the AFNs.

2.3.1 Community supported agriculture (CSA).

An overview of the CSA models in two different places with large diffusion is synthesized based on three key references: "Sharing the harvest" by Henderson & Van En. (2007); "Food with farmer's face: CSA in US" by Schnell (2007); and "The impact of CSA" by the Soil Association (2011). Lastly some other sources have been consulted to ensure validation of data like the international network of Community-Supported Agriculture, *Urgency*, or the Community Supported Agriculture for Europe project, 2013.

The first CSA was established in the United States in 1985 in the Indian Line farm by Robyn Van En, Jan Vandertuin and Jonh Root when they decided to introduce the principle of sharing the risks of cost of the harvest in their farm. The movement rapidly expanded across the country and nowadays is also rooted in Europe with particularly strong influence in the UK (Henderson & Van En, 2007). CSA refers to the engagement of nearby farmers and consumers that commit to each other. It is the only model that guarantees the farmers a financial support. The people who eat the food the farmer produces, consciously agree to share the risks and the benefits of each harvest by paying in advance. This is a crucial and unique point of the CSA models; however the goal of CSA goes far beyond economic reasons. These models are characteristic for establishing direct relationships between stakeholders (farmer and consumer) and they also follow organic principles in the vast majority of cases (Henderson & Van En, 2007; Schnell, S. M., 2007). Moreover, it is a powerful approach to reconnect people and agriculture, to give transparency to the food system and to respond to sustainability concerns about food production and consumption. Those characteristics translate in direct motives for individuals with environmental and social concerns to join the initiatives. CSA groups provide multiple benefits and opportunities to the participants, both farmers and consumers, to develop new skills and gain knowledge (Henderson & Van En, 2007).

Despite the numerous benefits, to create a CSA is not an easy task in terms of organization and management. Since the first CSA was created in the US, CSA models with all range of different characteristics have happened according to the specific situations and local needs. Many types of CSA have been adopted with completely different forms, varying commonly in production models or the members' participation level. Concerning the production side, some models direct all the produce to the members while others sell to members, markets or any others. Relevant to the level of members' involvement in either growing and/or distributing the wide range of possibilities extends between two extremes; from a strong required participation where members' work is compulsory as a part of the payment to a non-involvement model where a subscription in exchange of a box of vegetables is enough cases. Most of the CSA are situated along this scale, being the standard that members help with the distribution or volunteer to work on especially busy times as a part of their share (Henderson & Van En, 2007; Schnell, S. M., 2007). Variables are many, and the CSA approaches not only differ according to labour models or commitment levels, also the options for organizational and legal structure are multiple. Indeed, the type of membership or subscriptions, the different distribution systems, the market options, the role of CSA far beyond a simple food system but as a social community builder, and more; shows how specific is each individual case with respect to their particular environments. Accordingly, it is necessary to study the CSA initiatives from a concrete area to understand their development and characteristic structures. Besides, to contribute to the answer to the second research question, the CSA groups in the UK are subsequently analysed. England is the chosen country in Europe as it has the largest number of CSA initiatives (Community Supported Agriculture for Europe project, 2013).

2.3.1.1 The case of the UK

The existing network of CSA in the UK has developed as a branch of the "Soil association" to deeply follow the status and constraints of the different CSA initiatives and aiming to contribute to their further development. The Soil association is a recognised organization formed by multiple actors, farmers, scientist and civil society, that fights for a better agricultural system, working on organic schemes, land protection issues, and a great range of topics for more than 60 years now. They provide support and knowledge to the development and creation of the CSA initiatives in the UK. The support covers fundraising activities, academic material such as guides and case studies together with empirical information that aims to contribute to the successful implementation of new CSA models. The last report

of the Soil association concerning CSA initiatives was carried out in 2011 where an in depth analysis about the situation of the CSA in the UK was displayed with substantial data. It is therefore considered as a reliable source (Soil Association report, 2011) to present the most relevant factors surrounding the CSA initiatives in the UK.

By 2011, around 80 active CSA initiatives remained in England. Rough estimations calculate that over 1,300 hectares of land were being used to feed more than 12,500 people with an annual turnover of approximately £7,000,000. It implies a 0.01% of the population taking part in these initiatives by 2011 and providing around a 0.2% of the total income from farmlands in England. The significant growth of the CSA initiatives brings an interest to address the following question: what are the most common characteristics that these successful approaches have in the UK? The main characteristics shaping the CSA models in the UK are the same as the characteristics exposed for the CSA models in the US. However, some concrete actions have to have happened for these models to achieve such a great diffusion in England and not in other countries in Europe. The first particularity which stood out while revising the numbers was that around 90% of the CSA initiatives in the UK get some external support or advise, mostly from a social enterprise or co-operative support organization. Moreover, it has been reported that the primary requirements for the success of CSA initiatives is built on the internal capabilities of the group. The competencies are clustered in three dimensions; agricultural expertise, business management and the abilities for community organization. In many cases, as with the financial budget, some of the knowledge to the development of these capacities is provided by external support (Soil Association report, 2011).

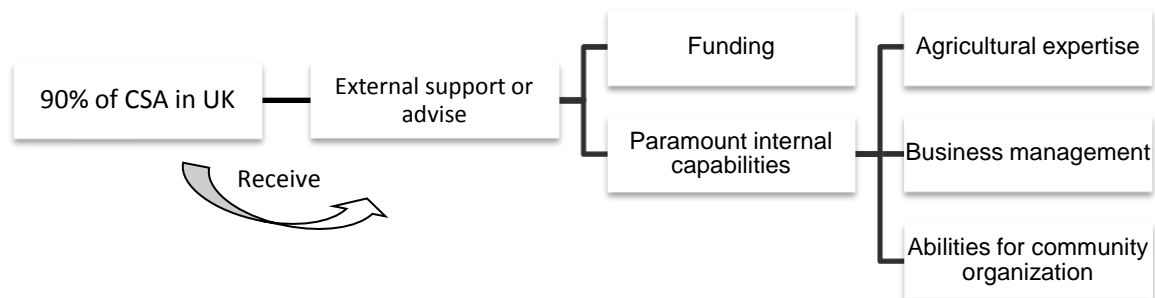


Figure 5. First particularity of the CSA in the UK; the role of external support.

Despite receiving common monetary support or guidance, the CSA approaches in England do not follow a uniform model. Actually, they vary along a lot of different dimensions such as membership arrangements, food distribution systems, produce offered, and participant labour among others. Adopting stronger or weaker features depends on the situation of each particular area, the values of the participants involved and their needs. A growing body of research papers with many case studies of individual initiatives explores the nature of diverse CSA models, their features and impacts. Different dimensions have been used to illustrate the diversity in the CSA across England; according to variables as the leadership and/or ownership of the initiative; the number of trading members; the area of land worked; or the turnover. A recognised division to differentiate the approaches to CSA in the UK depends on the ownership and/or leadership of the initiative (Soil Association report, 2011). Accordingly, they are categorized in four groups: a) Producer-led (subscription) initiatives, an existing producer makes partnerships through subscription models with community members which pay in advance to share production risks and get fresh and healthy produce in return; b) Community-led (co-operative) initiatives, the community owns the business and is the responsible for producing either for self-consumption or to other markets; c) Producer-community partnerships, the community owns the business and establishes partnerships with existing producers to ensure the supply of to the community members; d) Community-owned farm

enterprises; a community invests to ensure a farm business but not necessarily in exchange or trade with the community members.

Overall, the outcomes of different case studies highlight two most important issues leading to differences in CSA approaches (Soil Association report, 2011). On the one hand, most of the CSA approaches in the UK are happening from land-based agricultural producers. It is a fundamental requirement to have sufficient access to suitable land and this is sometimes a problem for initiatives promoted by communities, as they cannot ensure long-term access to the land. Similarly, it is necessary to ensure a minimum availability of physical resources for the basic running (production and operation) of the CSA. On the other hand, the results pointed out a primary difference in the motivation to develop a CSA initiative. When promoted by producers, to ensure a monetary stability is of primary importance; thus, to find a loyal market is one of the first aims, while to promote better social and environmental practices becomes a minor priority. In contrast, community-led initiatives generally get together to run for better social or environmental values and it is later that they confront the organization matters concerning labour, payments and more; necessary for their survival. In conclusion, the different aims or goals of the participants involved lead to different organizational structures that constitute diverse approaches to CSA.

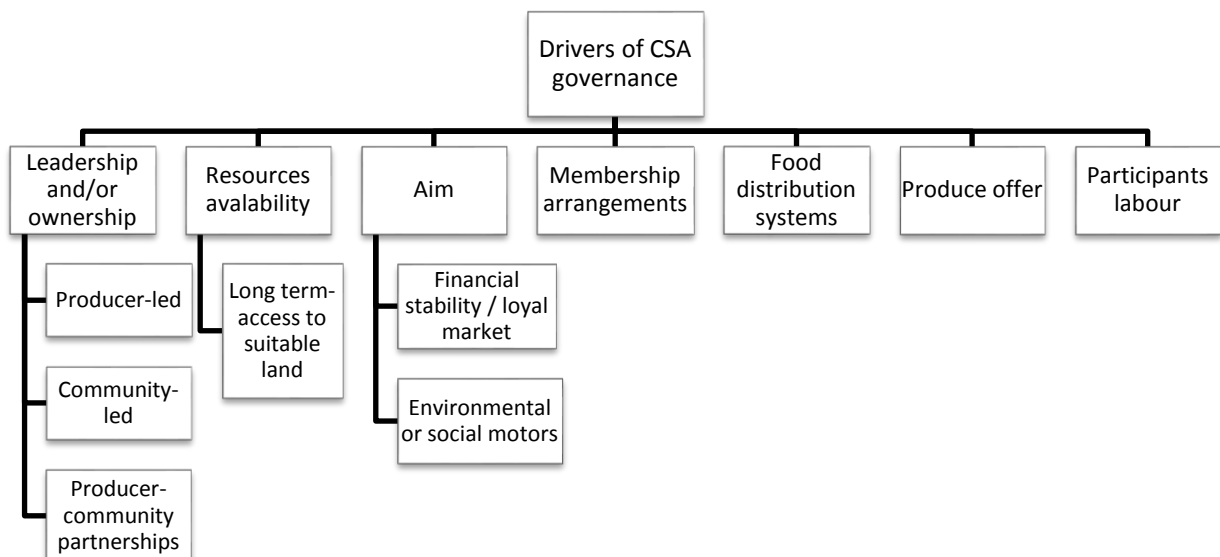


Figure 6. Drivers of CSA governance in the UK.

2.3.2 Consumer-producer partnership in France known as AMAP.

The first AMAP started to operate in France on April 2001, when Denise and Daniel Vuillon decided to introduce in their farm in Ouliouille, France, a model of community supported agriculture (CSA) that they discovered during a trip to the US. AMAP, *Associations pour le maintien d'une agriculture paysanne*, is the name they adopted for CSA. The Vuillon family not only introduced the model in their own farm but also started to spread it, as well as created on May 2011 the Alliance Provence, an association to help create and develop the AMAP initiatives in the province. The movement grew rapidly and in large numbers as it consisted of approximately 3000 farms following this model in 2011. The big impact of these phenomena boosted the creation of an international CSA network, called Urgency (Henderson & Van En., 2007).

According to the national directory of the AMAP (AMAP, 2014); AMAP is an association created to promote organic and family agriculture and to ensure its survival along the main stream food industry. It is the main principle to directly link consumers and producers that engage to decide together on the

terms of trade and agree on prepayments to ensure the small farm scale viability. Producer and consumers get involved in a shared management that allows setting fair prices for the produce and contributing to a responsible agricultural future. The functioning of the AMAP starts by gathering a group of consumers and a producer. First of all, the consumers sign a contract and compromise to support the producer for one complete year, the both productive seasons. Afterwards, they sit together to establish different agreements concerning the content of the box (produce variety and quantities); the methods of production (whether to follow organic schemes, certifications or others); the price of the box; the periodicity of the distribution (place and time); among others. The price of the box is fixed in such a way that ensures both a fair economic viability for the farmer and an affordable price for the members. A big price reduction is possible as no middleman or packaging is necessary. At least a part of the production is stipulated to be paid in advance so the members ensure the farmers' sufficient income to continue the production, and strongly support the local agriculture. The distribution sites are established according to the more feasible options so if the consumer group is close to the farm the produce will be distributed there, otherwise a pickup point will be set somewhere closer to the consumer group. It is common the creation of a members committee to follow the activities and themes of discussion between consumers and producers. Generally the committee has a coordinator, a finances person, a group informer, a volunteer coordinator, among others. All the committee members are volunteers and they rotate every year. It is a primary objective of the AMAP to ensure a close relationship between both parties. As well as to ensure long-term contracts between producer and consumer based on the criteria of geographical proximity (AMAP, 2014).

The AMAP scheme has a characteristic principle that allows consumers to negotiate about the food they consume with the producer so they become part of a co-production system. These initiatives seek to more directly involve consumers in the governance of the food network, yet this way of action is not always satisfactory for the stakeholders. Although it is seen as a democratic approach, some consumers are not so proactive to gain knowledge or participate in the farm activities. Similarly, sometimes some producers believe that this participatory way of governance slows down their work. It becomes difficult to keep the balance in the decision-making power which can be very problematic for the running and autonomy of the AMAP initiatives (Dubuisson-Quellier et. al., 2011). This factor is seen as a relevant limitation for the development of the AFNs that involve mutual decision-making, bringing the organizations to deterioration if the balance of power and understanding is not equal between both parties.

A synthesis of the distinguishing figures of an AMAP shows that they are based in the commitment of both consumer and producer. As a consumer it is compulsory to pay at least a part of the box share fee in advance as well as to be responsible for picking up her/his box. Besides, the consumer must have economic and social consciousness to share the risks of the harvest, and lastly, the consumer should be honest and trustful to promote a good relationship for the best development of the group. On the other side, the producers are compromised to produce a wide variety of quality products that are delivered on time. They have to assure transparency on regard to economics, methods of production, origin of products, problems with pests or any other that could affect the deliveries, etc. Finally the producers should be involved in the group dynamics, for example, by being open to explaining their work to the members and/or trying to take consumers' needs into account (AMAP, 2014).

Despite having a common scheme the AMAP initiatives have different ways of establishing these models, two of the most distinguished features for this diversity are the reasons for members' participation and the degree of consumers' engagement. According to different surveys, the producers are likely to

participate in the initiatives; firstly, because they are ensured a monetary guarantee by advanced payment from the customers, and secondly, due to the increased social value of working with people you know and in whom you trust. On the other hand, consumers engage due to two fundamental pillars: health and wellbeing; which involve organic, fresh, seasonable produce, connection with nature and others, as well as to support local agriculture (AMAP, 2014). Regarding the members engagement, in the way they interpret the box, the AMAP can be classified in three levels. The less involved participants only see the box as a way of consuming healthy food. One step further, the members understand the box as an innovative way to relate with a closeby farmer, consuming local is the motor. Lastly, the most involved partners see the box both as a way to ensure small local farmers' survival, as well as a movement towards a better food and agrological system in the long run (Dubuisson-Quellier et. al., 2011).

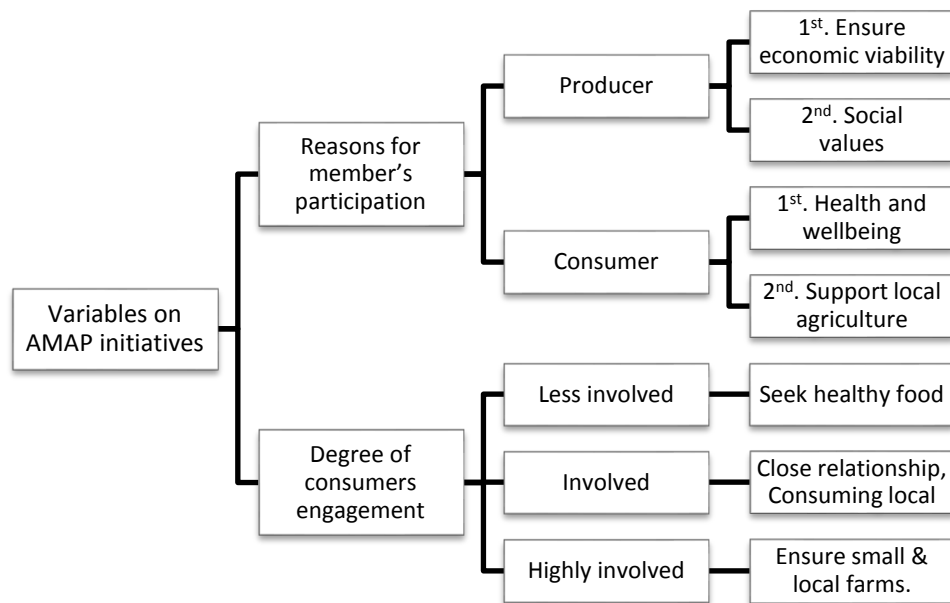


Figure 7. Variables affecting the ways of establishing an AMAP.

Summarizing the above, the benefits of the AMAPs can be gathered in three branches of action; 1 environmentally appropriate, dealing with products that travel less kilometres and require less packaging; 2 socially equitable, improving social relationships, sense of community, responsibility and trust; and 3 economically viable, improving the local economy and the movement of the money in the community. Moreover, it has been highlighted that one of the biggest contributions of the AMAPs is in relocating the economy (AMAP, 2014). Finally, to ensure the transparency of the processes in the AMAP initiatives, a monitoring mechanism has been developed by the AMAP alliance with the aim of consolidating reliable initiatives as well as propelling their growth (AMAP, 2014).

So far, the characteristics of the AMAP in France considered as a consumer-producer partnership with clear established objectives, rules and regulations have been analysed. Also, the CSA initiatives in the UK, mainly producer-led initiatives have been investigated. Lastly, the SPGs in Italy require our attention as they are another extended type of existing AFNs with large differences as compares to the two exposed cases above.

2.3.3 The SPGs in Italy.

Italy is another example where different forms of AFNs have arisen. In this case, the most extended model is known as solidarity purchase groups (SPGs), followed by farmer markets and in a small minority by

community supported agriculture (CSA) (Cicia et. al., 2011). The main difference regarding SPGs groups and CSA initiatives has to do with the actor that initiates the activity. SPGs are an example of AFNs started by consumers; opposite to CSA models mainly driven by producers or producer-consumer partnerships (Brunori, et. al., 2012). Solidarity Purchasing Groups or *Gruppi di Acquisto Solidale* refer to groups of consumers organized jointly to directly buy goods from nearby producers in accordance with fair environmental practices and social justice (Grasseni et. al., 2013; Colombo, L. A., 2012). The principles of the SPGs are multiple. Firstly, SPGs require a conscious consumption among the participants promoting fair supply chains with respectful environmental practices. Secondly, they are diffusers of the role consumer play in choosing one or other food system as well as a motor group to increase consumers' awareness on the big power they have. Third, they support buying from small and local producers or organizations that provide products produced fairly. The majority of the SPGs consume mainly seasonal and/or organic products. Lastly the SPGs strongly promote the development of synergies and the close relationships within the actors in the network based on trust, cooperation and transparency (Colombo, L. A., 2012; Brunori, et. al., 2012).

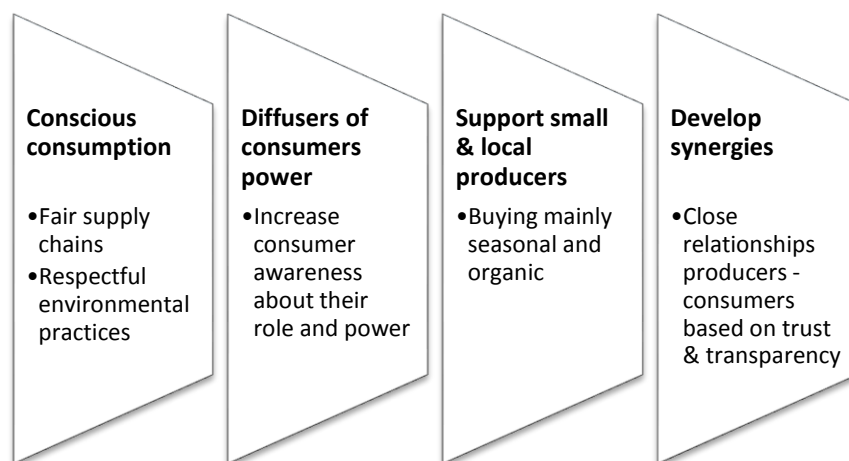


Figure 8. Principles of the SPG.

Ever since the first SPG was created in 1994, an exponent growth has occurred. According to the data found in the website of "Retegas", the national SPGs network, more than 900 groups were registered by 2012, meaning that at least twice the number was existing across Italy (Grasseni et. al., 2013). It is believed that the trajectory that brought to the establishment and diffusion of this type of AFN is due to the early creation of SPGs networks. In 1997 the first network appeared, providing a big push for the existing SPGs to root strongly. The network distributed an informative bulletin of all the SPGs among them and together with the creation of the website it became an essential tool for information and experience sharing. Within three years, the number of SPGs doubled, reaching approximately 30 in 1999. During this year, two major events took place: first, a monthly magazine was launched to share information on issues of social awareness, environment and ethical cooperation, and second, a national SPGs meeting was held for the first time meaning that almost all Italy was aware and involved in the SPGs network (Colombo, L. A., 2012). The consolidation of "Retegas" as the national network happened in 2002 and since then different episodes followed, such as the establishment of annual meetings among SPGs and ethical and responsible groups, the creation of specific software for SPGs, debates to evolve SPGs in Solidarity Economy's Districts, the recognition of the SPGs by the financial law in 2008 (declaring their activities as non-commercial and excluding them from paying VAT or taxes) and more. Brief, the power and representation that SPGs are reaching through strong bounded networks is becoming representative in the social and economic sphere of the Italian scene (Colombo, L. A., 2012).

The SPGs promote values of justice and sustainability around the food chain which translated into organisation criteria requires a strong focus on local sourcing logistics that ensures the promotion of the economy in the nearby area. Next to it, a close relationship with the producers to better understand the needs and risks of the stakeholders and achieve greater coordination for consequent environmental practices and social welfare. In this manner, activities such as co-producing together and/or paying fees in advance to minimize risks and ensure the survival of small producers can be settled. The SPGs operates with actions that try to achieve an efficient use of the resources, time and knowledge (Brunori, et. al., 2012). For this purpose, the SPGs get organized in sub-networks that link groups of consumers with different producers. Each sub-network is coordinated by a volunteer member that facilitates the dynamics of the orders and distribution. Different sub-networks are created according to the product necessities of the group and the willingness of a participant to manage it, so they are quite flexible structures. The members of the SPGs gather on assemblies on a regular basis, generally once a month, to decide in organizational topics, necessities or any concern for the running of the group. The participation in the assemblies is in practice quite low, but they keep operating due to an intense contact through Internet groups, mailing lists and websites. Internet has become the primary communication tool, essential to the group functioning. Concerning the legal condition of the SPGs some have registered as associations but the great majority work on an informal status. Also, the memberships are normally not displayed as contracts or with any formal arrangement but based on strong relationships founded on trust and commitment. Another common characteristic of these groups is to make peer networks at higher levels, regional, provincial and even national. They also tend to get involved with other associations in the neighbourhoods or organizations with similar values to cooperate in issues of common interest and maximize the available resources. It is a basic organizational principle of the SPGs to get organized in network schemes (Brunori, et. al., 2012).

Recently, some SPGs have expanded their scope to the non-food sector by opening new trade channels with textile producers and/or sustainable services, such as renewable energies or eco-tourism (Grasseni et. al., 2013 & Colombo, L. A., 2012). Still, not all are benefits and some constraints face the development of the SPGs. According to a survey carried out in Lombardy to more than 1500 families involved in SPGs the lack of support from official or governmental organizations is an important gap to address to scale up the SPGs. The main networks they have are established with grassroots organizations or NGOs, which doesn't facilitate the possibility to target new groups or evolve (Grasseni et. al., 2013). Another research in Bergamo stated that the networking of the different SPGs not only comes with the benefits of a better logistics but requires big efforts and availability of time (Grasseni et. al., 2013). Multiple factors need to be considered in order to develop a long term plan for the successful establishment of such initiatives.

2.3.4 Teikei = "Relationship or Partnership"

The origin of the modern movement known as CSA emerged in Japan in the early 1971. It rose from a group of woman conscious with the harmful effects that the use of pesticides on food could cause in human health. It was born as the organic food movement in which not only the way of producing was of relevance but also the relationships between consumer and producer was of primary importance. It became popular around 1975 when several groups of woman were gathering to buy healthy food directly to the farmers for their kids. The movement spread rapidly and the Japan Organic Agriculture Association was founded (Henderson & Van En, 2007). Some principles on the basics of the functioning of these alternative food models were then settled so it was easier to replicate them. First of all and of primary importance is to create and maintain a close relationship, preferable face-to-face, between consumer and producer; this allows good understanding among each other, exchange of knowledge and promotes

assistance. Secondly, the distribution is necessarily performed by one of the parties, no middleman is allowed. On the majority of the cases the distribution is either to consumer groups, where a common distribution point is arranged for all the families involved in it, or direct from the farmer to particular consumers. Third, the farmer compromises to produce wide variety of supply and the consumer to accept it. Fourth, a fair price is settled by consensus reached by both parties, and the farmer compromises to be transparent about the cost of the different activities. Fifth, a democratic and adequate management of the group is required. Lastly, it is established that the participants in the group should continuously study and learn about topics related with alternative food systems and respectful production and consumption practices for a better accomplishment of the different activities and the satisfactory development of the 'Teikei' (Japan Organic Agriculture Association, 1993).

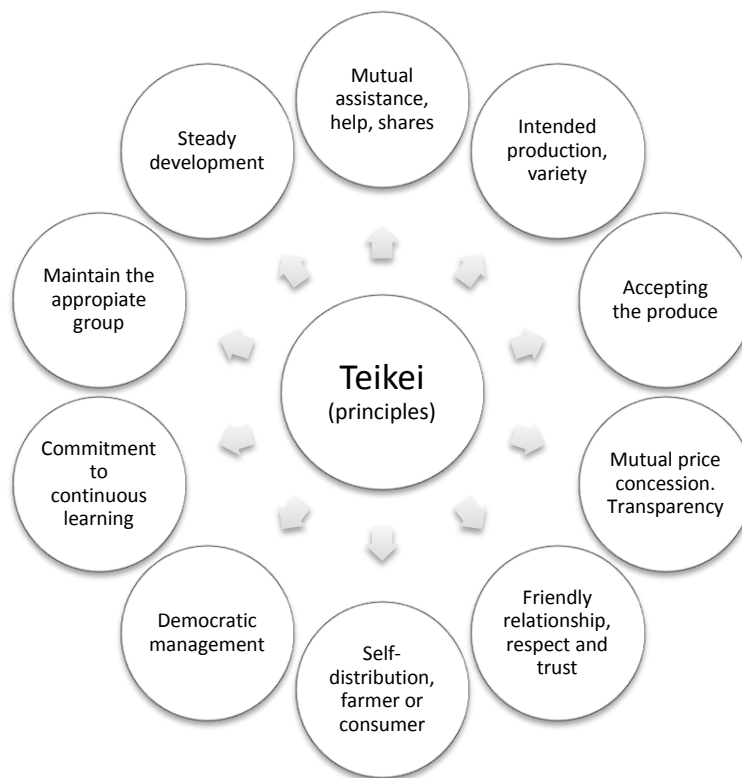


Figure 9. The ten principles of the "Teikei". Source: Japan Organic Agriculture Association, 1993.

The organic agricultural movement originated in Japan with innovative structures different from the main stream food system. Not only the production methods were changed but also the distribution and management was reconstructed with new methodologies. Consumers and farmers took the leadership of the initiative creating other ways of trading propelled by shared values around food (Henderson & Van En, 2007).

However, the reality of the Teikei in Japan today shows stagnation (Hatano, T., 2008). The main reasons for its decline point towards the actual social conditions, intern problems and the competition of the organic market. Firstly, they have presented big difficulties to adapt to continuous changing environments, and have failed to integrate new generations. In addition, woman have lowered their volunteer work in the Teikei initiatives as they have increasingly incorporated to the working society. Secondly, many internal problems have largely caused dissatisfaction of both farmers and consumers. Three main constraints have hindered their development: to maintain face-to-face relationships; to adjust price and quantity of produce providing generally an excess of supply that has failed to meet a balance

need of the consumers; and lastly, many management problems. Next to it, and as a final hazard to Teikei development is the big competition of the organic market that has provided consumers organic produce from the shops' shelves without having to get involved in a relationship with a farmer or compromise with any task (Hatano, T., 2008). The forty years of development of this movement has led to many diversified Teikei approaches that have adapted to the specific needs of each particular place. They now present many different management systems and characteristic features (Hatano, T., 2008) which accordingly to the above stated is not contributing to the diffusion of the Teikei in Japan.

2.3.5 Characteristic features of extended European/Japanese AFNs

This section of the literature study presents a big picture on the situation of different alternative food networks (AFNs) in the developed world. The analysis of the three main extended models in Europe; the Community supported agriculture in the UK; the Associations pour le maintien d'une agriculture paysanne, AMAP, in France; and the Solidarity purchase groups in Italy (Community Supported Agriculture for Europe project, 2013; Cicia et. al., 2011); provides sufficient information to address the second research question (RQ2) of this study. Moreover, the recapitulation on the principles and functioning of the specific and successful AFNs models provides an ideal body of information to guide the work of this research. It contributes with a new lens to filter some of the variables that affect the organizational structures of the AFNs sampled in Valencia. The governance modes are clue to classify both the cases in Valencia and the ones described in this chapter. The literature exposed above on the AFNs cases is used to build a pattern of organizational assessment by comparing the main commonalities and differences that shape the exposed European/Japanese models (table 1). The cases are synthesized according to five variables, governance mode, leadership / ownership of the initiative, stakeholders involved, aims and key features. Table 1 results in the following body of information. First it is extracted that two main types of governance modes are used in the analysed AFNs; hybrid and network modes. On the one hand, the hybrid modes combine both characteristics of the market and the hierarchy governance. In the case of the UK the Community Supported Agriculture initiatives are led by producers that coordinate the production and the resources at the production stage and which sell to consumers individually or in groups. These broad features just prove the presence of a hybrid or network mode of governance in the CSA approaches however does not provide a clear specification as main more elements are involved. Next to it, the AMAP show a hybrid government profile with a different conformation. They present specific requirements and fixed rules of functioning that through close contracts stipulate the scope and power of the participants.

Theoretically, farmers and consumers engage in a shared governance and shared management however in practice there is a higher mechanism (the AMAP organization) that controls the operation of the models. The existence of a control body with sufficient power to change the ways of functioning of the different models is recognized as similar to the vertical power structures of the hierarchic modes. Besides, market features are present when detecting that the primary reason for the producers to engage is to ensure their economic viability. On the other hand, network governance modes do not present hierarchies or contracts of any type. This is the case of the Solidarity Purchase Groups where a group of conscious consumers informally engages with different producers to buy from local sources. They are structured in networks based on trust and with horizontal power, where decisions are generally taken in assembly way. Next to it, the Teikei in Japan also belongs to this mode of governance. In this case to allow a common understanding of the initiative and facilitate its emergency and way of functioning ten principles were stipulated. The main features were displayed to guide a close and both side beneficial relationship between producer and consumer. All the actors involved have to strongly participate in the initiative to create a shared production, governance and transaction. It represents again a horizontal and not legal based way of functioning.

The rest of the analysed variables exposed in Table 1 highly influence the type of governance. The leadership / ownership of the initiative, aim and other key features are the descriptive factors that allow categorizing the governance of the exposed AFNs as revealed by the above paragraph. Accordingly, it is the intention of this paper to use those variables as a guidance to explore and describe the governance modes of the research sample from Valencia. In this manner contributing with a step forward to shape the research direction (see section 2.4 Theoretical framework).

Alternative Food Networks (AFNs)	Governance mode ^{(a)(b)}	Leadership / Ownership of the initiative	Stakeholders involved ^(c)	Aim	Key features
Community Supported Agriculture	Network or Hybrid	Mainly land-based agricultural producers	Land farmers and consumers.	Create supportive relationships around the actors of the food system.	External support and advise. Jointly agreed paramount competences: agricultural expertise, business management & abilities for community organization. No specific model. Flexible structures
AMAP	Hybrid	Consumer-producer partnership	Small and local farmer, a community of consumers and coordinators.	Promote organic & family agriculture to ensure its survival among the main stream food industry.	Specific requirements, rules & ways of functioning. Coordinated by a higher network. Consumers and producers engaged in shared governance & shared management.
Solidarity Purchase Groups	Network	Consumer-led initiatives	Community of consumers, local farmers and local producers.	Create groups of consumers to directly buy from nearby producers that respect fair environmental & social practices.	Diffusers of consumers power and focus in increasing consumer awareness. Organized in network schemes. Informal legal status. Scope beyond food sector.
Teikei	Network	Consumer-led initiatives	Farmers and consumers.	Create other ways of trading propelled by shared values around food.	Settled principles for the basic functioning of this alternative food models.

Table 1. Characteristic features and types of governance of extended European/Japanese Alternative Food Networks.
Source: Own elaboration after (a) Williamson 1991 (b) Menard 2004 (c) Pascucci 2010.

2.4 Theoretical framework.

The body of information gathered in the literature review results in a theoretical framework (figure 11). The insights of the theoretical framework link the exposed theory in such a way that organizational understandings of the AFNs present in the urban and peri-urban area of Valencia will be obtained. Performing the actions specified in the theoretical framework, the aspects of the AFNs present in Valencia as sharing economy systems can be further investigated.

The structure of the theoretical framework consists of three sections that move from general to more specific data. The outside circle provides three external lenses derived from theory and that frame the perspective used to look at the research sample. The proposed external lenses are three. The first approach attempts to identify the AFNs as sharing economy systems; recalling the literature (section 2.1.1) there are six key features which are paramount for this work. Hence, the six variables will be tested in the sample of study by conducting a detailed review of the interviews to allow a further definition and categorization of the AFNs in the urban and peri-urban area of Valencia as sharing economy systems. The second lens concerns organizational theories and is obtained from a New institutional economics and Transaction cost economics perspective (Williamson O. E., 1991; Ménard C., 2004; Jones et. al., 1997). The literature study on these theories (section 2.2) explains on four generic types of governance that will guide the analysis of the research sample. The AFNs will be tested according to the governance modes of hierarchy, market, hybrid and network. Next to it, resource pooling and contracting are the selected mechanisms to discover which type of governance is applying in every approach. Last but not least, the theory on extended AFNs in Europe/Japan provides a systematic body of information with independent variables to analyse the features of the AFNs in Valencia. It has been distinguished a set of specific factors that shape and differentiate the distinct AFNs in Europe and beyond (table 1). The modelling variables are five: governance mode, leadership/ownership of the initiative, stakeholders involved, aim and specific features. The systematic analysis will be used to provide a categorization of the distinct AFNs in Valencia accordingly.

The empirical situation of the research constitutes the second section of the theoretical framework. In this section, a detailed comparison in between pairs of cases to find new categories of analyses that might be of relevance will be performed. The main variables affecting the research sample will be subjected to statistical programs with the intention to discover dependencies and group them in clusters. The internal assets of the AFNs in the urban and peri-urban area of Valencia will be uncovered. In other words, the pool of resources, the different contracts and relationships among the actors involved, the type of power and main constraints surrounding the researched cases as well as their key features will be grouped and brought to analysis.

Lastly, the outcome of the research will be framed in organizational terms. Since the focus of this work relies on the organizational structures that shape and differentiate the AFNs that fit as sharing economy systems, the critical view of the analysis will be limited to those parameters. The variables extracted from the literature study and the ones derived from the empirical study on the AFNs sample will be combined in order to achieve valid and replicable results. The systematic approach will provide a body of information of sufficient validity to understand the different settings that affect the organization of sharing economy systems in the agricultural and food sector. The selected parameters contribute to shape the organizational context and advance the knowledge gap in these types of AFNs by defining the

governance mode, the resources that are pooled, their different ownership and its evolution, the type of contracts and relationships and the key features.

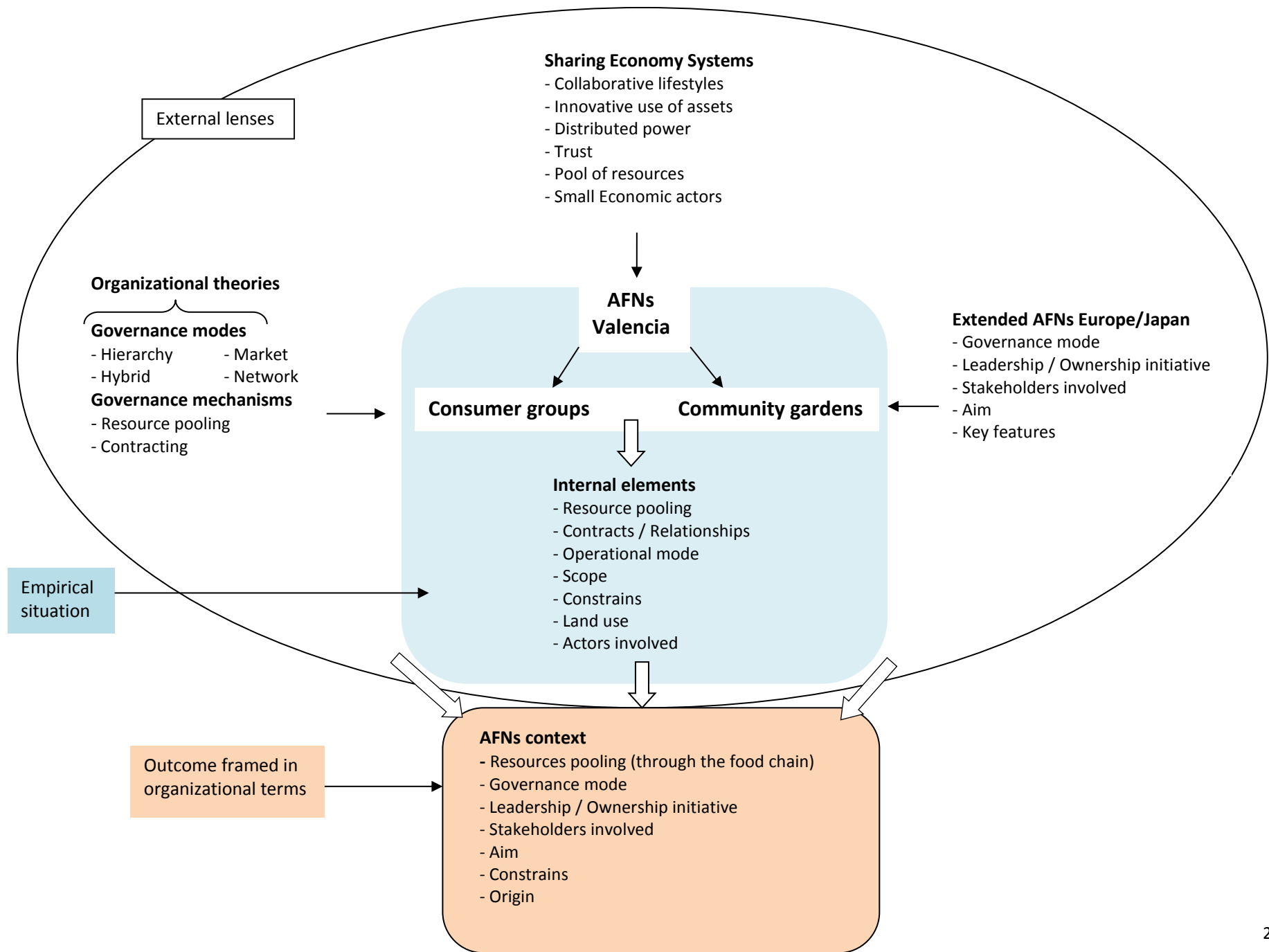


Figure 10. Theoretical framework

3. Methodology

This chapter describes the methods used to conduct the empirical research. To a certain extent, this research can be seen as an inductive approach; although some changes have been performed. The starting point is not directly observation and data collection, yet it is the information derived from this that will guide and shape the research (Goddard & Melville, 2004). The literature study presented in the previous chapter gained insights to differentiate and analyse the empirical cases. To obtain the necessary information to conduct the empirical research section 3.1 discusses the selected research strategy; section 3.2 the process of selection for the case studies; and section 3.3 develops the data collection methods. Lastly, section 3.4 concludes with the operationalization process, the procedure through which the studied theoretical constructs are defined for measurement.

3.1 Research strategy

This study follows the methodology of the grounded theory approach. This means that hypothesis are absent at the beginning of the research and they will be driven after posterior reasoning from experience (Goddard & Melville, 2004). However, in this study, organizational theories have been selected in advance for a specific, more accurate and systematic data collection. Additionally, to understand the nature of the research problem, the case study method is recognized to be a suitable approach to inductively draw conclusions on the studied phenomena (Merriam S. B., 2002). Case studies claim to gain deep and detailed information of processes happening in a concrete time and space (Verschuren and Doorewaard, 2005). The qualitative research allows following our own structures and theoretical assumptions when dealing with the AFNs in the specific context of the urban and peri-urban area of Valencia.

Overview of research steps

The research can be divided in two broad processes aimed to (1) Identify and understand the organizational elements shaping the specific forms of collaborative AFNs; (2) Analyse and compare the different cases in order to establish a broad categorization for the agricultural and food sector according to their different organizational structures.

The first stage of the first process consist in an in depth diagnosis of the existing literature to clearly map and distinguish the existing AFNs that fit as sharing economy systems in the urban and peri-urban area of Valencia. A key understanding of the principles, characteristics and values that shape these particular AFNs is required as a starting point. This information is used to define and set the limits of the research sample and allow us to proceed with the second stage of this process: data collection. To ensure an accurate data collection, a background study of the most extended AFNs in Europe/Japan is performed. The knowledge gained from the reviewed European/Japanese AFNs is used to create a standard interview model by including the key features surrounding these initiatives. This approach is intended to create an interview pattern for the empirical cases of sufficient validity. Next to it is the proposed method to enable a subsequently comparison on the commonalities and differences between extended AFN models and the studied AFNs in Valencia.

The second process of this research aims to categorize and analyse the researched AFNs according to their different organizational structures. The combination and comparison of theoretical knowledge with field data are expected to provide sufficient skills to make an acceptable analysis and a proper interpretation of the subsequent results (Verschuren and Doorewaard, 2005). Accordingly organizational

theories are reviewed to find the most appropriate approach to determine and characterise the established internal structures of the AFNs located in Valencia. Based on the knowledge acquired from the literature review an analysis of the organizational models according to the selected variables will be performed. The conclusions of the data analysis are intended to be drawn from two different perspectives in order to achieve, (a) a categorization of the different AFNs in Valencia according to their most representative organizational elements; and (b) a comparison on the different organizational structures of the AFNs in Valencia with other widespread AFN models in Europe and beyond.

3.2 Selection of case studies

A theoretical sampling is used in this research to determine the representative case studies, an approach developed by Glaser and Strauss (1967). Theoretical sampling ensures the clear definition of the population that will be object of the research, avoiding rare variables to appear and contributing to define the limits of the findings (Eisenhardt, K. M., 1989). The selected sample for this research is constituted by the AFNs based on collaborative production and/or consumption of food within the urban and peri-urban area of Valencia. The boundaries of this selection are based on two potential constructs found in the extant literature. First, the growth of activities that contribute to new forms of economy, like the sharing economy (Orsi J., 2013), brought an interest for this research to tag the AFNs fitting in the principles of sharing economy, since they had not been conceptualized in this manner. Second, the expected urban population growth (UN, 2011) together with the gap in urban agriculture policies for sharing economy activities restricted the research focus to AFNs settled in urban and peri-urban areas. Based on the literature study the AFNs that belong to the research sample have to meet the following criteria:

- Present the key features of sharing economy activities (section 2.1.1):
 - o Collaborative consumption
 - o Pool of resources and services
 - o Distributed power
 - o Trust
 - o Innovative use of assets
 - o Small economic actors
- Be located in the urban or peri-urban area of Valencia.

The perimeter of the peri-urban area of Valencia is established according to the following two premises in this research: firstly, the initiatives have to be settled not further than 18km from the city centre and secondly, and of major importance, they must serve to urban consumers.

The selection criteria yielded a research population that could be divided into two different blocks: community gardens and consumer groups. A key study to determine the research sample derived from a previous study developed by Utópika and ISF (engineers without borders); two groups actively involved in academic research and associated with the Polytechnic University of Valencia. Literature review together with an online search, yielded 20 consumer groups and 12 community gardens meeting the requirements in the urban and peri-urban area of Valencia. However, the total population sample size was subjected to enlargement or reduction depending on the new information encountered on the field. The snowball sampling technique was especially applied to find out more community gardens as the information on Internet was scarce and not accurate.

The complete sample consisted of 20 consumer groups and 19 community gardens and it was intended to gather information from the totality of cases. However, the final research sample consisted of 6 consumer groups and 12 community gardens. The reduction of the sample was not due to a selection

process but the willingness to participate. In the first place, nearly half of the consumer groups did not respond to emails sent neither in Spanish nor in Valencian (dialect spoken in Valencia). In addition, a few responses were negative claiming that “we have participated twice in academic research during the last year and we have received no feedback”. Furthermore, the consumers that accepted to participate got involved in a long process with their group members in order to set a meeting date due to their assembly character. On the other hand, community gardens responded in greater number, faster and all with a positive attitude to participate. Nevertheless, in this case the main constraint was to find the contact, as no email or phone was available in many cases. Most of the interviews to the community gardens were possible by building a network of actors with major involvement in the field. To further understand the case selection process an overview of the evolution of the contact with the different initiatives is presented in appendix I. The information concerning the date of the interview, the interviewee and the place of the meeting is also provided in the appendix.

The major limitations of the theoretical sampling applied in this study are twofold. The first one arises when choosing for a sampling strategy that focuses on a deep analysis rather than a wide analysis of cases. The population sample is subjected to enlargement considering the limited resources (time, expertise in the sector, etc.). Next to it, the second limitation regards a sample size that is not subjected to theoretical saturation but availability constraints. The term of theoretical saturation indicates that the moment to stop sampling is reached when new information does not emerge among the studied cases (Verschuren and Doorewaard, 2005). This does not imply that the research sample achieved in this study is not of sufficient validity to create generalizations of the AFNs organizational structures fitting as sharing economy systems.

3.3 Data collection

The required data to establish a relevant evaluation of impacts and a useful comparison of the AFNs was collected from different sources. This research is based on qualitative research methods. The proposed methods for data collection in this study are observation, interviews, archival data and field notes. The combination of multiple data sources will give validity to the case study research (Yin, R. K., 2009). Primary importance was placed to design an interview model that could provide an accurate set of data that responded to the objectives of the research.

Interview design

The interviews are semi-structured in order to offer flexibility of response and avoid restrictions in the participants’ answers. The goal of this type of interviews consists in exploring similarities and differences across different factors (Uwe, F., 1998). Accordingly, it is considered adequate to apply a semi-structured interview type for this research; an approach that will allow analysing in depth the situation of the AFNs that fit as sharing economy systems in the urban and peri-urban area of Valencia. The aim is to provide a body of information of sufficient accuracy to uncover the different organizational structures surrounding these models.

The interviews are designed containing all the relevant constructs found in the literature review and is presented in both close-end and open questions. The combination of quantitative and qualitative data, not only contributes to the validity of the research but it is also highly recommendable to facilitate the sometimes difficult translation of narrative data in the analysis (Eisenhardt, K. M., 1989). The interviews are structured in four blocks concerning the origin of the initiatives; the availability of resources and their ownership status; the type of contracts and relationships among the actors involved; and lastly the main constraints affecting the group development. The four blocks arise from the operationalization of the

exposed variables in the theoretical framework (see the next section 3.4). The interview aims to obtain information with regard a) the defining characteristics of each AFN initiative, and b) the organizational structures.

Validity and reliability

The quality of the research is given by the qualitative validity and the qualitative reliability (Gibbs, G. R., 2008). According to LeCompte & Goetz (1982), two forms of validity in relation to qualitative research are distinguished. Internal validity refers to the interpretation between researchers' observation and the theoretical concepts they develop; while external validity refers to what extent the findings can be generalized. To ensure the internal validity, an extensive literature research on organizational theories is performed to obtain the most representative constructs for a suitable and systematic data collection from the AFNs. In this case, governance modes will be analysed according to four generic approaches: market, hierarchy, hybrid and network. Furthermore, the theoretical analysis on expended European/Japanese AFNs provides a set of variables to define the cases. However, to shape an accurate understanding of the AFNs organization, new variables will be adding onsite to the standardized interview if a possible interesting area of research pops-up. Concerning the external validity of the research, a case study is not sufficient to generalize the theory (Yin, R. K., 2009) to other AFNs. However, the research can give valuable insights on how the different organizational structures of the AFNs in the same category shape one or another type of initiative. By the multiple selection of cases in the same category, the generalization of the research will be potentiated (Eisenhardt, K. M., 1989). In addition, the reliability in a qualitative study refers to the degree of consistency to which the observations of a case are subjected (Gibbs, G. R., 2008). In this study to obtain a reliable method the interviews will be recorded and the additional material gathered by observation will be presented in photos or transcripts. Also, the analysis of the data will be examined and supervised by two other researchers with expertise and complementary backgrounds. The participation of multiple investigators will increase the quality and validity of the research as it will provide different points of views, insights and judgements to the analysis of the research (Eisenhardt, K. M., 1989).

3.4 Operationalization

The components of the theoretical framework are the base of the operationalization in this research. The specific theoretical lenses guide the information that should be achieved through the empirical research. This contributes to a systematic data gathering and to a deep understanding of the factors defining and affecting the different AFNs. Accordingly, the constructs that build the theoretical framework are used to formulate the interview questions. Hence, the following set of topics and indicators is extracted (table 2) to be operationalized into the designed questioner.

Theoretical lens	Topics	Indicators
Sharing Economy Systems	Collaborative lifestyles	(a) Resource pooling
	Innovative use of assets	(a) Resource pooling
	Distributed power	(b) Contracting
	Trust	(c) Member's requirements
	Pool of resources	(d) Resources ownership status
	Small Economic actors	(e) Stakeholders involved

Organizational theories (Governance modes)	Hierarchy Market Hybrid Network	(a) & (b) Resource pooling and Contracting
Extended AFNs Europe/Japan	Governance mode Leadership / Ownership initiative Stakeholders involved Aim Specific features	(a) & (b) Resource pooling and Contracting (f) Leadership / Ownership initiative (e) Stakeholders involved (g) Aim and scope of the initiative (h) Main constraints

Table 2. Theoretical lens into interview topics and indicators.

The different theoretical lenses that form the theoretical framework result in a different set of topics represented with different indicators; however, in various cases the indicators coincide. Subsequently, the different indicators are reflected into interview questions in more or less detail in order to achieve a structural understanding on the researched AFNs. The operationalization of the indicators into interview questions is presented in table 3. Most of the interview questions are based on relevant theory on the field of AFNs and previous scientific work. The complete set of interview questions can be found in appendix II.

Indicators	Interview questions or explanation of the questions development
(f) Origin / Leadership or ownership initiative	How did the consumer group / community gardens emerged? Who started the initiative? What were the first movements? Did you need any financial investment? How did you arrange the basic resources? Did you make any previous partnership? Does the group follows organic farming principles or any others?
(e) Stakeholders involved	Which set of actors is involved in the group?
(g) Aim and Scope of the initiative	What are the objectives of the group? Which sectors of action do you reach? Do you perform or receive events or trainings?
(a) & (d) Resources pooling & ownership status	Natural resources, physical resources, financial capital, human capital and social resources are in depth analysed to understand their availability, ownership and current status.
(b) Contracting	Are there formal or informal contracts? Are they in oral or written form? How is the group structured? Is the group divided into teams with different activities or tasks? If so, which ones? How are the different teams and activities organized? By who and how are the decisions made within the group? Do you have any control and / or coordination methods? If so, of what kind? How do they work? How does decision making work within the group?

(c) Member's requirements	How do you become a member? Are there any requirements to enter the group? Are there any rules? How does the engagement work? (Paying upfront fees / Engaging some of your time to labour / With contracts or informal trust-based models)
(h) Main constraints	Which would you say are the main problems that threaten or limit the development of your organization? Are there any internal conflicts?

Table 3. Operationalization of the theoretical constructs into interview questions.

Coding procedure

As a first step to avoid an enormous data overload, the transcripts derived from the interviews and other data collected in the empirical research will be analysed using a within-case method. This approach allows a precise definition and description of the relevant facts of each case, to facilitate a clear understanding and focus of the research (Eisenhardt, K. M., 1989). It consists on an in-depth exploration of each single case of study to understand first the variables affecting each case, and then look for recurrent themes to further develop types or families of cases. Therefore, it is the chosen method aiming to clearly map and define the AFNs of the urban and peri-urban area of Valencia.

The information obtained from the field interviews was collected through an open type of questions. The respondents provided multiple answers in open question types and accordingly the data was systematically categorized and coded. An open coding was chosen to conceptualize the data derived from the field notes and transcripts. The approach implied a process of extracting, comparing and modifying the many concepts as new data emerged. Afterwards, the data was coded by assigning a word or a short phrase that summarises common characteristics found in the data transcripts. Many of the codes try to relate key concepts from the literature study in order to contribute to the selection of the data needed to provide answers to the research questions. The coding structure consisted on collapsing the response of the AFN participants in seven general domains or elements: (1) Resource pooling, (2) Contracting / Relationships, (3) Operational mode, (4) Scope, (5) Constraints, (6) Land use, and (7) Actors involved (appendix IV). The two first elements or domains were extracted from previous theoretical constructs on organizational theories and sharing economy systems. The rest of the elements were obtained exclusively from comparing the empirical data that derived from the interviews and the field observation. The extraction of the variables from theoretical constructs is further explained on the data analysis section where it is exposed which techniques were applied in order to obtain the mentioned data set. One author was independently in charge of the coding. Revision on the transcript notes and coding was provided by an academic supervisor with experience on the field.

Data analysis

According to the aim of the research and the large amount of qualitative data encountered in this work, various analyses are proposed. The cross-case searching analysis technique has been selected as an appropriate method to provide validity to the research. There are several techniques to execute this approach; in this work two of them are proposed for the analysis. The first selected procedure consists in comparing the sampled cases with previously selected categories found through literature study. The aim is to provide an overview of the similarities and differences happening between cases (Eisenhardt, K. M., 1989). This technique has been used twice during the data analysis of this research: First, to analyse whether the selected sample of AFNs happening in Valencia can be identified as sharing economy systems; and second, to find the different characteristics surrounding the organizational structures of the AFNs. The first analysis uses a template on the features of sharing economy systems (section 2.1.1, figure

4) for that purpose. Similarly, for the second analysis it is intended to use a pattern of organizational features derived from the literature study on organizational governance and extended European/Japanese AFNs (section 2.3.5, table 1). With the purpose to categorize the sampled cases from an organizational perspective, five categories were selected as relevant, Governance mode, Leadership / Ownership initiative, Stakeholders involved, Aim and Key features. Next to it, the second technique to develop a cross-case searching analysis was performed. It involved a detailed comparison in between pairs of cases to find new categories of analysis that might be relevant (Eisenhardt, K. M., 1989). The approach resulted in the addition of two categorical variables to this second analysis know as Constraints and Origin and two quantitative variables concerning the number of members and the life time of the initiative. In conclusion, nine categories were used to define the 18 researched cases (appendix VI), aiming to categorize the AFNs according to their different organizational structures.

Statistical methods constitute the other pillar to analyse the results in this research. In order to understand how the organizational elements characterize the various cases analysed, a two-stage process proceeded. The first step was to conduct a Multiple Correspondence Analysis (MCA) with the goal of exposing the relationship between the different variables describing community gardens and consumer groups. This descriptive analysis allows using categorical variables and calculates factorial components for further analysis. The first component retains the maximum explained variance, the second the second largest variance and so on (Husson et al., 2010). For this analysis, all the categorical variables found when performing the variable coding in the within-case study (appendix IV) together with the number of members and the years of existence as additional variables were used. Subsequently, a Hierarchical Clustering on Principal Components (HCPC) where the main components were obtained from the MCA was performed. The HCPC allowed grouping ("cluster") the different cases of study according to the different variables that better describe them from the data set. Accordingly, it allowed determining the relationships between the different groups of individuals ("clusters"). The HCPC requires defining a distance and an agglomeration criterion (Husson et al., 2010). In this analysis the clusters are joined using a metric matrix distance (distance between pairs of observations) and binding criteria (distance between sets of observations). In this study the matrix distance was calculated using the Euclidean distance and the agglomeration criteria was Ward's criterion (minimizing within cluster variance). The hierarchy is represented by a tree named dendrogram which is indexed by the gain of within-inertia. Besides, to learn more about the variables that characterize the partition of clusters a χ^2 -test is performed in the HCPC. The analyses were performed with the "FactoMineR" package in the statistical program R version 3.1.1 (Husson et al., 2013).

In conclusion, the analyses of data with within-case, cross-case and statistical methods aims to provide as a final goal a deep understanding of the organizational processes that take place in the AFNs in the urban and peri-urban area of Valencia and allow a comparison of the studied cases with other extended AFNs in Europe and beyond.

4. Results

This chapter discusses the results of the empirical findings gathered during the field work in Valencia. The chapter is divided into four sections that should provide insights in the following research sub-question:

RQ3. What are the main organizational elements that characterize the different AFNs in the urban and peri-urban area of Valencia?

Section 4.1 concludes on the AFNs sampled in Valencia as sharing economy systems. Section 4.2 discusses the main features characterizing the researched cases in the urban and peri-urban Valencia to understand how the organizational elements shape them. Next to it, section 4.3 studies the various pooled resources in the different initiatives along the food chain. Lastly, section 4.4 provides a categorization of the AFNs in Valencia according to their different organizational structures with special attention on the governance modes.

4.1 AFNs as sharing economy systems in the urban and peri-urban Valencia.

The features of the sharing economy systems identified in the literature study (section 2.1.1) are the selected template to determine whether the AFNs in Valencia can be categorized as sharing economy activities. A cross-case searching that compares the selected six elements found through the literature with the sampled cases was developed. It resulted in detailed information that describes the different patterns that shape each AFN according to the sharing economy features (appendix III). A synthesis of the data obtained from the cross-case analysis on appendix III is provided in table 4. The common information between cases was extracted by comparing initiatives and discovering their similar features. This resulted on a two group classification, the six analysed consumer group cases on one side and the twelve community garden approaches on the other. The systematic analysis provides a visualization of the common patterns and differences that the studied AFNs have according to the proposed sharing economy template.

Sharing economy features	Consumer groups	Community gardens
Collaborative lifestyles	Collective food ordering, distribution and purchase. Networking.	Collective food production. Community work (to condition and maintain the gardens 10/12 cases). Collective investments (6/12) and distribution (4/12 cases).
Distributed power	Joint management and decision making.	The power is dispersed among the participants involved.
Innovative and more efficient utilization of the assets	Internet as tool for communication and food ordering.	Recover and harness unused land. Computer technology as key to communicate (mainly email).
Trust	Member's requirement is commitment, compromise and/or interest. Based on trust.	Commitment and compromise to participate. Based on trust among actors.

Pool of resources and services is shared	Food. Human capital. Distribution / meeting space (5/6 cases).	Food. Land. Water. Irrigation system. Multiple actors' capabilities. Hand tools (9/12). External agricultural support (7/12 cases).
Small economic actors	Small and local producers. Neighbour households (5/6 cases).	Mainly individual citizens from the neighborhood or nearby. Also cases with governmental participation.

Table 4. Synthesis of the AFNs features as sharing economy activities in the urban and peri-urban area of Valencia coming from the analysis in Annex III. The amount of cases that displayed each feature is indicated in brackets if not all the cases presented it.

The analysis not only proved that the AFNs present in the urban and peri-urban area of Valencia fit as sharing economy activities but also corroborate that consumer groups and community gardens are comparable models but not likely to cluster in the same category.

On the one hand the actors on the consumer groups show collaborative lifestyles as they collectively organize to perform the food ordering, distribution and purchase. Together, the networking character of these initiatives is another indicator of collective coordination. It was discovered during the interviews that many of this consumer groups (four out of six) were engaged in higher networks to perform larger product orderings. A second characteristic of consumer groups as sharing economy activities was highlighted by their different approaches to perform a joint management and decision making. A 50% of the cases were functioning in assembly way. Third, the technologies of the 21st century, the Internet, have been adapted in the AFNs as a tool to facilitate communication (by email) and perform food transactions. Moreover two of the consumer groups had included free software to perform the food ordering as a most innovative asset to upgrade their organization structure. The fourth feature, trust, has been found to be intrinsic to the consumer group models. The groups are formed by participants of all kinds, with different ages, educational backgrounds and ideologies; and at the time of entering the group they are generally unknown. However the main requirement for the different people to become a member has to do with commitment and/or compromise, which in practical effects is a matter of trust. The fifth indicator of a sharing economy activity entails a pool of resources and services that is shared. In the case of consumer groups the main shared resource and concern is food. It is the primary motor of these initiatives. The participants of the interviews missed to point out the time, labour, dedication and effort that the participants were providing. However it has been included as an important pooled resource common to all the consumer groups under the name of human capital. Next to it, common spaces are established in five out of the six initiatives to perform the group activities such as meetings, food distribution and purchase activities. Finally it is also verified that the consumer group approaches happen between small economic actors as the activities were generally constituted by a small number of concerned households from the same neighbourhood. Besides, one of the principles of the consumer groups was to seek for local and organic producers leading on the support of the small agricultural producers. All in all, it was collected sufficient evidence to sustain that the consumer groups fit as sharing economy activities.

On the other hand, community gardens have also proved to be activities that follow the principles of sharing economy systems. Firstly, the collective production of food was the main common parameter to all the investigated cases showing their collaborative lifestyles character. Next to it, community work, collective investments and distribution were also applicable in some cases ranging from more to less

frequency of activity. Secondly, the power was found to be distributed among the participants involved in the initiative however many different approaches were detected towards the division of power. In some cases functioning in assembly way, others rely in volunteer management boards and more. The evidence supports the applicability of a further analysis to better understand and define the different ways to manage and distribute the power within the initiatives. The third feature defining the community gardens as sharing economy activities has to do with the innovative and more efficient utilization of assets. It was discovered that all of the activities have recovered and harness disused land. The availability of natural resources in sufficient quantity and quantity was detected of primordial importance for the development of the community garden initiatives. Next to it, the computer technology was key to communicate among actors in all the cases, mainly through email groups. Fourthly the community gardens are based on trust among the actors involve. Whether either case presents one of other approach to ensure participation, this is ultimately based in commitment and compromise in all the different initiatives. The fifth feature deals with sharing resources and services. Food is the main attribute around which these initiatives are built, just as in the consumer group initiatives. Furthermore the community gardens share natural resources such as land and water, some physical assets and multiple actors' capabilities among others features. Besides, the fact that more than half of the initiatives had shared external agricultural support brought evidence that the agriculture expertise is a resource facilitating the good functioning of the community gardens. Lastly the initiatives generally happen among individual citizens from the neighbourhood or nearby areas that gather together to join or develop the different gardening projects. However it is not exclusive to regular citizens and many emerging community garden initiatives in Valencia are being developed by the municipalities where the governmental participation is playing a leading role.

The evidence provided three interesting outputs for this research. Firstly and as expected, the study sustained that the AFNs present in Valencia fit as sharing economy activities and that they can be broadly recognized as community gardens and consumer groups. Next to it, the large spectrum of information covered by the sharing economy features in the cross-case study proved the second outcome. In the analysis remained unclear how the different initiatives in both consumer groups and community gardens proceed to achieve some of the found features. For example, it was discovered that all the initiatives had distributed power yet how the power was arranged was not specified. Similarly to what extent the trust among initiatives was established with more or less informal procedures remained undefined. Consequently, as it is one of the objectives of this research to clearly map and define the existing AFN in Valencia as sharing economy systems an in depth analysis on the internal characteristics of the AFN follows in section 4.2. It is the aim to achieve an understanding on how the different AFN models differ to lead to one or other approach and classify them accordingly. Last but not least, the many characteristics on collaborative lifestyles and pooled resources suggested the relevance of analysing what is shared and where in the different AFN initiatives. The analysis provided strong evidences on the relevance of resource sharing within the AFNs models. Accordingly a systematic analysis on the ownership status of the different resources and their different stages of sharing along the food chain would be provided in section 4.3. It is intended to discover possible patterns that can lead to significant differences shaping the different sharing economy approaches in the agricultural and food sector.

4.2 Organizational elements shaping the AFNs in the urban and peri-urban Valencia.

This section presents a two stages method analysis with the aim of a) defining the key variables affecting the organizational arrangement of the researched cases in Valencia and b) to provide a sorting of the

initiatives according to their most representative organizational features.

The first step consisted in performing a within-case data analysis for a valid selection of variables that precisely define and describe each case of study. The information extracted from the 18 cases originated a data set of 68 categorical variables and 6 continuous ones. The categorical variables were described and grouped in seven elements to facilitate the coding and interpretation in this work (appendix IV). Resource pooling and Contracting/Relationships display two categories with sufficient material to understand the different governance modes. It was derived from the theory on organizational governance and stated in the theoretical framework. Next to it, the rest of the variables are found empirically through the within-case analysis as relevant to define and shape the different AFNs. They cover the remaining five categories that are called operational mode, scope, constraints, land use and actors involved.

The second stage consisted in performing an analysis of the extracted data set in the just mentioned within-case search, with the support of statistical software called "R". It was the aim of this study to understand how the organizational elements influence the various cases of the researched AFN sample and group them according to their most meaningful characteristics. The statistical analysis provided a classification of the AFNs in three clusters (figure 11). The partition was mainly influenced by the effect of the following variables; Collective.Production, Collectively.Purchase, Distribution.decision.right, Participatory.Certification, Food.transactions and Own.consumption (table 6). According to the results, a key factor differentiating community gardens (clusters 1 and 2) from consumer groups (cluster 3) had to do with the timing of collective participation. It referred to the time of production in community gardens versus the performing of collective food orders and purchase in consumer groups. Moreover the main feature shaping the distinction among cluster 1 (one type of community gardens) versus cluster 2 and 3 (the other type of community gardens and the consumer groups) was based on the scope of the initiatives. In the first it was compulsory the use of food for own consumption while in the latter clusters food transactions were performed as motor activity. In consequence the approaches from cluster 1 do not need to have a certification process for the produce since producer and consumer is the same actor and no food transactions happen. In contrast the models in cluster 2 and 3 presented certification process and in all cases is done in a participatory manner not needing to follow any formal procedure. The last relevant factor shaping the differences between clusters relies in the right for the actors involved to decide on the distribution mechanisms being possible for the initiatives in cluster 1 and 3 and not for the ones in cluster 2.

Specifically to better understand the characteristics that define every cluster and which suggested their corresponding names statistical analyses followed to describe the clusters according to their variables and/or categories (table 7). Cluster 1 presented the community gardens where the food is produced compulsorily for own consumption and accordingly the selling of food is prohibited. The profile of this community gardens was mainly defined by relationships founded in the basis of food transactions such as, no participatory certification, no irregular purchases, no fixed order/deliver, no email transactions and more.

Cluster 2 included the cases of community gardens based on food transactions for livelihood. This cluster was firstly characterised by lacking on distribution decision right which meant that the distribution mechanism was not chosen by the gardeners involved. Next the cases showed a close relationship among the actors in the group indicated by a high frequency on the variables product quality feedback (meaning that the groups presented assigned channels for that purpose) and direct visits. Moreover the main constraint for the development of the community gardens in this cluster was pointed out by the variable

lacking awareness meaning that the main stream consumer lacks on understanding of this market segment. Lastly email transactions were recognized as the main trading channel and the financial investments as the most characteristic pooled resource (table 7).

In cluster 3 it was found the other main type of AFNs researched in this work, the consumer groups. They are characterised by performing collective purchase of products but not collective production of food and neither having decision right on the production portfolio. Next to it, the consumer groups do not present pooled natural resources such as land or water, among other features (table 7).

4.2.1 “R” software, statistical analysis results.

Multiple correspondence analysis (MCA)

A multiple correspondence analysis was performed with the aim to analyse the correlation within variables and the relationships among the AFNs in a plane defined by the principal components. According to the results of the MCA the first three components explain 56.46% of the explained variance of the system. However the first nine components were used for the hierarchical cluster analysis because it was considered that they reach a higher variance percentage (table 5). This percentage indicates that the variables immersed in the first nine components summarize the 88% of the information on the system. Each component has a set of variables according to their correlation with the respective component. Afterwards, the information of each variable in the components is used to perform the cluster analysis. There is no standard rule or criteria that states how many components per se have to be used for subsequent analysis accordingly it is intended to select the components that explain as much as possible. However you cannot select all the components because it will make the cluster unstable. Various experts have stressed to not use the last axes of the MCA because they are considered as noise and would make the clustering less stable (Husson et al., 2010).

Component	Variance	Variance %	Cumulative variance %
1	0.31	30.13	30.13
2	0.16	15.43	45.55
3	0.11	10.90	56.46
4	0.09	8.37	64.83
5	0.06	6.34	71.18
6	0.05	5.23	76.41
7	0.05	4.60	81.00
8	0.04	3.95	84.94
9	0.03	3.00	88.00

Table 5. Explained variance from the components of the multiple correspondence analysis. The results of the three first components of the MCA are attached on appendix V.

Briefly, table 5 indicates the percentage of explained variance for each axis. This illustrates how well the analysis fits the data (how much of the variation the analysis captures). It is also known as adjusted eigenvalues. Each component has a squared eigenvalue to help select the dimensions that best explain the system. In this case the first nine components were selected.

Hierarchical Clustering on Principal Components (HCPC)

Regarding the analysis of the HCPC the last axis on the MCA were not used because it was considered to incorporate noise to the analysis and provided a less stable cluster (Husson et al., 2010). Therefore, only the information of the variables that were present on each of the first 9 axis of the MCA that summarized 88% of the cumulative variation were used. The HCPC suggests a division of the researched AFNs into three main clusters. Cluster 1 and 2 are integrated by community gardens while cluster 3 by consumer groups (figure 11).

The decision for the three clusters that divide the tree comes from the inertia gain graph placed on the upper right corner of the figure 11. The graph indicates how many clusters should be included and it is interpreted as follows: the first longest bold bar indicates two clusters; the second bar indicates the addition of one more cluster, and so on. Since in this case only two bars are in bold, it means that a three clusters division is most appropriate for a correct classification according to the variables used in this analysis.

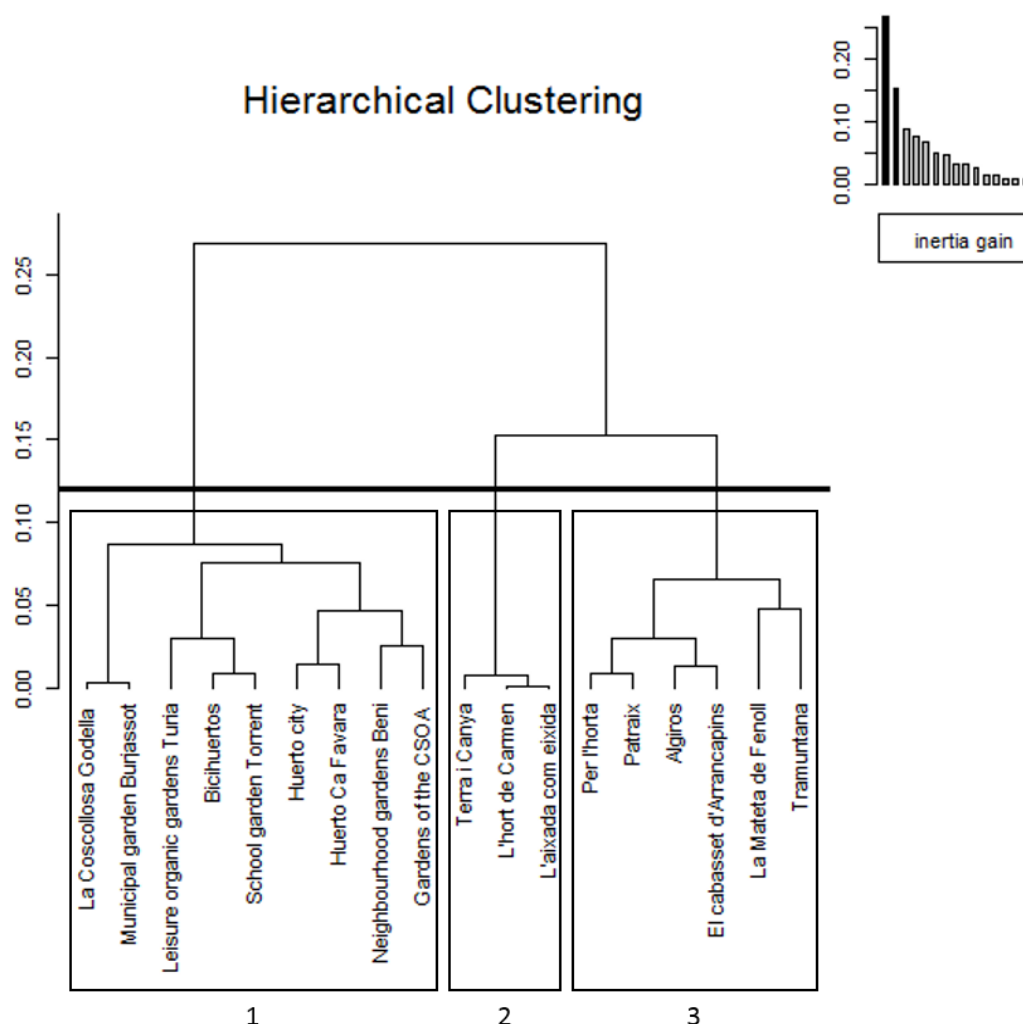


Figure 11. Hierarchical classification on the principal components describing the similarity between different community gardens and consumer groups. The boxes with numbers indicate the cluster.

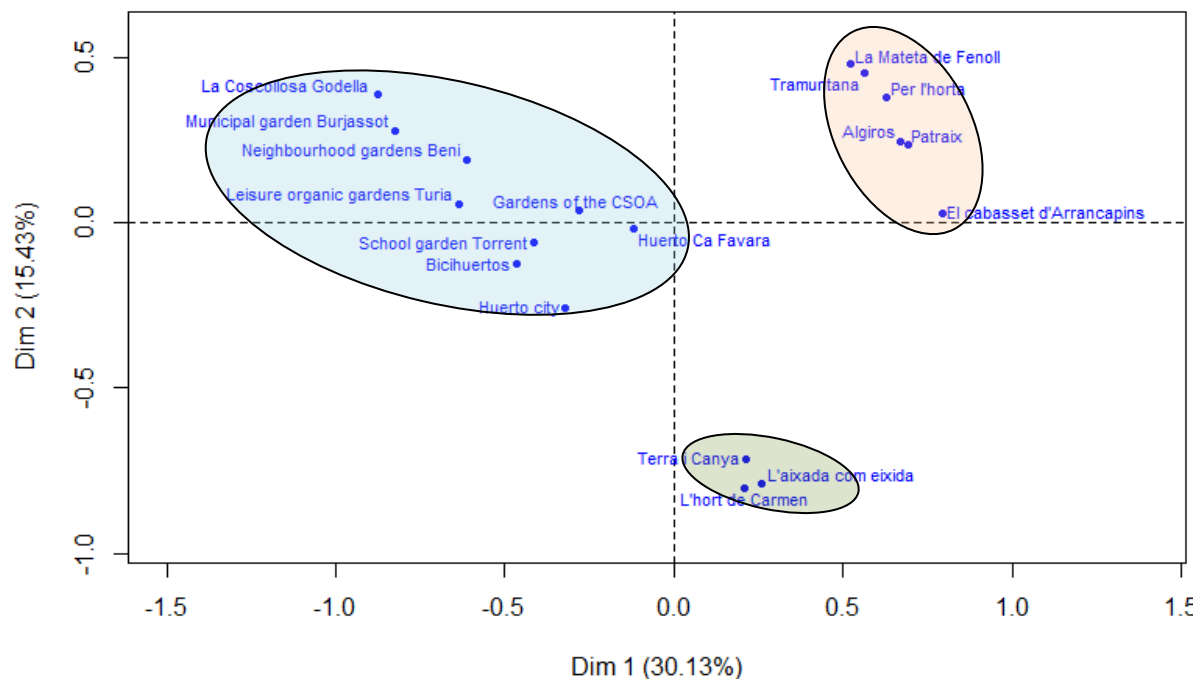


Figure 12. Representation of the clusters on the map induced by the first two principal components.

The partitioning in three clusters is represented on a map produced by the first two principal components; the individuals are grouped in coloured circles according to their cluster (figure 12). Cluster 1 is circled in blue, Cluster 2 is circled in green and Cluster 3 in orange. The graph shows that the three clusters are well-separated on the first two principal components. It allows a visual differentiation of the studied community gardens and consumer groups according to the axis of the components 1 and 2 of the MCA.

Next to it, from the χ^2 -test performed in the HCPC (appendix V) it was found that the variables that most influenced the characterization of the 3 clusters were Collective.Production, Collectively.Purchase, Distribution.decision.right, Participatory.certification, Food.transactions and Own.consumption (Table 6).

Variable	p-value
Collective.Production	0.0001
Collectively.Purchase	0.0001
Distribution.decision.right	0.0001
Participatory.certification	0.0001
Food.transactions	0.0001
Own.consumption	0.0001

Table 6. Extraction of the six most representative variables in the partition of the clusters. Summary of the results of the participation of each variable in the partition of the clusters (appendix V).

Moreover, a summary of the characteristics that define each cluster in terms of relative frequency is presented in table 7. The community gardens in cluster 1 are all characterized by presenting Own consumption, No food transactions, not participatory certification and not irregular purchases, among others. In cluster 2 was found that No Distribution decision right, Product quality feedback, Lacking awareness, Direct visits, Email transactions and Financial investments characterize all community gardens in this group. Finally, for Cluster 3 formed by consumer groups were characterized by a high frequency of Collectively Purchase, Not Collective Production and No Production decision right among others.

	Mod.Cla (%)	Global (%)	p-value	v-Test
Cluster 1: “Own consumption community gardens” (n=9)				
Own consumption	100	50	<0.001	4.25
No food transactions	100	50	<0.001	4.25
No participatory certification	100	50	<0.001	4.25
No irregular purchases	100	55.55	<0.001	3.71
No fixed order/deliver	100	55.55	<0.001	3.71
No email transactions	100	61.11	<0.001	3.25
No products diversity	100	66.66	<0.001	2.83
No direct visits	100	66.66	<0.001	2.83
Not Collectively Purchase	100	66.66	<0.001	2.83
Collective Production	100	66.66	<0.001	2.83
No Distribution/Purchase space	100	72.22	<0.001	2.43
Not lacking product supply	100	77.77	<0.001	2.04
No Software transactions	100	77.77	<0.001	2.04
No product quality feedback	100	77.77	<0.001	2.04
Cluster 2: “Commercial community gardens” (n=3)				
No Distribution decision right	100	16.66	0.001	3.23
Product quality feedback	100	22.22	0.004	2.81
Lacking awareness	100	33.33	0.024	2.24
Direct visits	100	33.33	0.024	2.24
Email transactions	100	38.38	0.042	2.02
Financial investments	100	38.88	0.042	2.02
Cluster 3: “Consumer groups” (n=6)				
Collectively Purchase	100	33.33	<0.001	4.03
Not Collective Production	100	33.33	<0.001	4.03
No Production decision right	100	38.88	<0.001	3.55
No Water	100	38.88	<0.001	3.55
No land	100	38.88	<0.001	3.55
Not own consumption	100	50	<0.01	2.83
Food transactions	100	50	<0.01	2.83
Participatory certification	100	50	<0.01	2.83
No External support	100	50	<0.01	2.83
No Production assets	100	50	<0.01	2.83
No Agricultural knowledge	100	50	<0.01	2.83
No Trainings	100	55.55	0.01	2.53
Not lacking awareness	100	66.66	0.04	1.96
No external coordination	100	66.66	0.04	1.96
No control mechanisms	100	66.66	0.04	1.96
Not formal contracts	100	66.66	0.04	1.96
Small entrepreneurs	100	66.66	0.04	1.96

Table 7. Organizational elements that characterize the three clusters obtained from the HCPC analysis. **Mod.Cla**, the proportion of individuals of this cluster having the modality; **Global**, the proportion of individuals having the modality in the whole dataset; **v-Test**, the contribution of the modality into a category.

The variables defining the three extracted clusters provided a sufficient body of information to group them under the labels of “Own consumption community gardens” for Cluster 1, “Commercial community gardens” for Cluster 2 and “Consumer groups” Cluster 3. All together the statistical analyses conclude in the proposed sorting of the initiatives according to their most representative organizational elements in this paper work.

4.3 Resource sharing in AFNs along the different stages of the food chain

In a first approximation to the researched AFNs in Valencia (when performing a cross-case searching to compare the features of the sharing economy systems in section 4.1) it was detected that there were two main types of AFN happening in Valencia and fitting as sharing economy systems, consumer groups and community gardens. However, contrary to the many commonalities that those models have in order to belong to the sharing economy activities (table 4), the two approaches presented totally different structures and organization schemes as could be seen during the data collection procedure. According to the cross-case analysis the food was the only common motor resource of all the studied cases. Similarly, the main difference among initiatives emerged at the timing of collective participation.

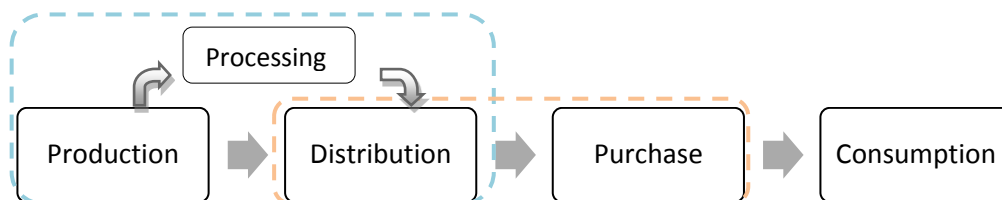


Figure 13. Food sharing stages along the food chain in consumer groups (orange) and community gardens (blue).

Figure 13 provides a simple representation that shows how the food sharing evolves along the food chain only in accordance with the results of first empirical analysis (section 4.1). The results highlighted that in the consumer groups the activities of distribution and purchase were the chosen ones by the actors involved to collaboratively coordinate to obtain food. Moreover, it is around that purpose that the initiative is established and constructed. The six analysed cases of consumer groups organize to make common orders, distribution and purchase of food. In contrast, the sharing of the food in the community gardens is common to all the cases only at the moment of production. However, the sharing of food in the community gardens is not exclusive to this stage, as in five out of the twelve cases the distribution of food is also a shared task (appendix III).

Similar to food other resources are also pooled among the actors involved in the various initiatives. It is the aim of this section to uncover which resources are shared within the different analysed cases and concretely highlight in which stages along the food chain. For that purpose, the cases were grouped according to the results of the statistical analyses (MCA and HCPC) which suggested a three cluster categorization of the cases (section 4.2). Together, the different pooled resources among initiatives were extracted from the variable set displayed on the within-case analysis previously performed for the statistical analysis (appendix IV). The combination of these parameters for analysis resulted in table 8 in which is possible to visualize the sharing character of the different resources along the food chain stages in the researched AFNs grouped in the three proposed clusters.

Stages -->	Production	Distribution	Purchase (or sale)	Consumption
Resources				
Food				
Natural capital				
- Land				
- Water				
Human capital				
- Labour				
- Information exchange				
- Agricultural knowledge				
- Associative capabilities				
Physical capital				
- Production assets				
- Distrib./Purchase space				
- Technology				
Financial capital				
- Investments				
- External funding				
Social capital				
- Training				
- Events				
- External support				

Table 8. Resource sharing stages along the food chain in consumer groups (orange) own consumption community gardens (blue) and commercial community gardens (green). The white cells determine none shared resources or irrelevant parameter and the grey cells lacking information. Note that a parameter was considered to be shared in the whole cluster when at least half of the initiatives plus one were searing the resource.

The first outstanding results are detected in the table displayed in a first glance. To begin with, the three clusters can be classified from higher to lower resource sharing starting from the commercial community gardens, followed by the own consumption community gardens and finalising in the consumer groups. Next to it, it was possible to detect that the commercial community gardens (green) shared resources of all kind, natural, human, physical, financial and social. In contrast, the consumer groups (orange) were only sharing resources concerning human and physical capital. Also it is highlighted visually that the own consumption community gardens (blue) share their resources mainly at the production stage. Moreover, through a detailed visual inspection food has been detected as the only shared resource along the food chain that all the studied initiatives have in common and it just happens at the distribution stage. Similarly another parameter affecting all the cases in this research is the lack of external funding at any stage for any type of initiative. Lastly, the grey cells predominance in the consumption column corroborated that this study did not focus in the consumption stage of the different activities and consequently will be left out from the analysis from this point forward.

The pooled resources (which and where) were identify to largely differ among the AFN initiatives. Subsequently, it was found significant to provide a detailed description of the resource sharing along the food chain according to the three clusters typology. The commercial community gardens, on cluster 2 and represented in green, include the initiatives with the highest resource sharing rate. As mention in the paragraph above they are the only group pooling resources from the five blocks on resource capital. The strong focus of these initiatives to share human and social capital reflects the multiple actors' capabilities

of the individuals involved in this type of AFNs. These models mainly miss the associative component and the participation on trainings or their organization, generally caused by lack of time but not for lack of interest. Next to it, natural capital was pooled along the complete food chain as various activities such as pick up points, events or lunch meetings, were sometime happening on the field of production. Also the physical capital was pooled in these initiatives implying the use of diverse technology. The last output states that these initiatives are the only ones where money is pooled among the actors involved for the prosperity of the group.

Cluster 1 known as own consumption community gardens and represented in blue in table 8 ranges second in the degree of resource pooling. Nonetheless the amount of shared resources at the production stage is equal to the previous analysed cluster of the commercial community gardens. However in this case associative capabilities and trainings are present. In contrast events and financial investments are left out of the pool. In practice these kind of community gardens have subdivide a piece of land into several plots and assigned them to different actors. The plots are generally cultivated independently by a group of people and always with non-commercial purpose. Accordingly the initiatives pertaining to the own consumption community gardens presented limited shared resources in the distribution stage and none in the purchase moment. However, the different aims and setting ups between both types of community gardens, cluster 1 and 2, justifies the divergent parameters within both groups.

The last cluster, number 3 and coloured orange, comprises the consumer groups which have ranged lowest in resource sharing. Despite the lack of resource pooling relevant information has been extracted from the analysis. First the consumer groups' initiatives do not participate in the production stage at any level, second they do not exchange information or actors capabilities and lastly they are not functioning to provide or participate in events, trainings or external support. Facts that contrast strikingly with the goals and objectives that consumer groups stated in interviews. One of the main motivations for the consumer groups to emerge is to consume consciously and responsibly however they lack on dissemination focus to spread the ideals and capture participants is contradictory. It creates inconsistency between the goal the consumer groups persecute and their ways of functioning.

All in all, the analysis contributes to advance knowledge to the categorization on the three cluster typology from a resource sharing point of view and consequently to achieve a better understanding of the AFNs happening in Valencia. However to provide a complete description of the cases that could contribute to replicate this sharing economy systems in the agricultural and food sector and to answer the main research question, a deeper analyses on the organizational structures follows in the next section.

4.4 AFNs in Valencia and their organizational structures.

As a last attempt to categorize the AFNs in Valencia according to their organizational structures a cross-case patterns searching is conducted. This time organizational governance theories are selected as a suitable approach to perform a systematic analysis for this typology. Two perspectives were combined to perform the analysis, organizational governance and extended European/Japanese AFNs points of view. It is the aim of this work to use a pattern of organizational assessment extracted from own theoretical assumptions on the literature review (section 2.3.5, table 1) to provide a new lens on the categorization of sharing economy systems in the agricultural and food sector. The detailed academic review provided five categories of analysis; moreover it was supported with a repeated inspection of the empirical data which provided four more categories of analysis. The final outcomes are exposed on appendix VI where nine categories were the selected template to analyse the 18 researched AFNs. The large amount of

descriptive data derived from each case of study was synthesized in table 9. The agglomeration of the content of the 18 cases was performed according to the three clusters categorization obtained in section 4.2. However not all the nine categories were found to be generic to all the researched cases in the three clusters classification and thus they are not presented in table 9. The data in appendix VI provides extra information on the number of members, lifetime of the initiatives and the key features found on each case.

AFN	Governance mode ^{(a)(b)}	Leadership of the initiative	Stakeholders involved ^(c)	Aim	Main constraints	Origin
Consumer groups (Cluster 3) n = 6	Network (No contracts. Participatory groups. Joint management & decision making. Based on trust and compromise.)	Consumer-led initiatives	Community of consumers, local farmers and/or local/close by producers.	1. Create an alternative to the main stream food system. 2. Potentiate small and local producers. 3. Build community. 4. Food sovereignty. 5. Reconnect people and land.	Lack of members and participation. Lack of products. Orders' irregularities.	From 15 M (1/2) & from conscious consumers (1/2)
Own consumption Community gardens (Cluster 1) n = 9	Hybrid (Legal contracts & garden rules. The city hall is a control institution. The gardens are self-managed by participants. Volunteer board, management & communication.)	Government-led (City hall)	Citizens/producers/consumers and council technicians.	1. Give the opportunity to citizens to work the land. 2. Recover degraded urban land. 3. Connect the people from the neighbourhood.	Resource scarcity. Management difficulties to coordinate many participants.	Environmental office from the city council.
	Hybrid (Legal contracts and garden rules. The owner controls the gardens. Agricultural technician supervises & coordinates. Users independently work the field & share the food.)	Entrepreneurial-led initiatives	Land owner & gardeners (2/3) +entrepreneur & pedagogy association(1/3)	1. Provide small plots to enjoy own consumption gardening. 2. Make profit. 3. Provide training to future gardeners.	Lack of users' involvement. Lack of participants (2/3). Fail on management & coordination (1/3).	Small entrepreneurial project.
	Network No contracts. Participatory group. Collective tasks. (3/4) Rules & statutes jointly developed by the gardeners & not legal. Volunteer management board to coordinate diverse tasks.(1/4)	Consumer/prod ucer-led initiatives (citizens)	Community of producers/ consumers. Neighbourhood association(1/4)	1. Recover degraded land. 2. Create social cohesion & work in community. 3. Encourage urban gardens 4. Provide a space to learn and interact.	Participation & human organization. Obtain the right to use the land (1/4). Infrastructure (1/4).	A group of neighbours with different interests.
Commercial Community gardens (Cluster 2) n = 3	Network (No contracts. Joint management & decision making. Based on strong commitment and trust)	Producer-led initiatives	Farmers and consumers.	1. Promote short supply channels 2. Food sovereignty. 3. Enhance biodiversity. 4. Recover local varieties. 5. Create an alternative economic pillar. 6. Earn the living.	Give commercial exit to the products (no time to be farmer & trader). Lack of consumer understanding. Participation (2/3).	Interested individuals looking for land to cultivate and produce.

Table 9. Characteristics shaping the organizational structure of the sharing economy systems of the agricultural and food sector in Valencia.

Source: Own elaboration after (a) Williamson 1991 (b) Menard 2004 (c) Pascucci 2010.

The analysis provided significant results to better understand the different organizational structures of the researched cases in Valencia. It was possible to respectively categorize the analysed consumer groups and the commercial community gardens initiatives in one common category under the selected variable set. In contrast, the cases presented in own-consumption community gardens had larger differences that emerged in a three type sub-categorization of the initiatives.

According to the results, Cluster 2 and 3 suggested a network governance mode. It was found in the case of the consumer groups that the initiatives were based on informal arrangements to ensure the participation of the individuals involved. They did not present whatever type of contracts with legal forms but rather they were founded in the commitment of each individual to participate. To ensure the group functioning, the management and decisions were collectively performed. Although it is difficult to find consensus among a large number of individuals, two premises that facilitate this task come into play in these cases. First, all individuals present in the group have common goals which generally concern three basic pillars, a) to provide an alternative to the mainstream food system by supporting local economies; b) to gain knowledge on the food origin and production systems by getting closer to the production chain; and c) to build community. The other premise has to do with the little participation of the individuals in the group which on one side difficulties growth but also reduces the contact time to the product orders. In this way, only the most relevant issues are displayed for discussion.

Similar to the consumer groups, the commercial community gardens are also proposed as network governance models. Accordingly, it is proved that the network governance modes can be led by either consumers or producers. In the initiatives belonging to cluster 3 known as consumer groups, the creators and promoters of the initiatives are the consumers, contrary to the commercial community gardens the leaders of the initiatives are exclusively producers. Surprisingly, this is the biggest difference between the two groups in terms of the organizational structure although the initiatives from both clusters operate in totally different stages of the food chain. The consumer groups are based on food purchase and distribution while the commercial community gardens on the food production stage. Both clusters coordinate internally with informal structures that guarantee joint decision making and management. They also present very similar goals and organizational operation modes. Besides this, one of the greatest constraints of the commercial community gardens is correlated with the impossibility of the gardeners to multitask as producers, traders and consumer awareness raisers.

Lastly, for cluster 1 known as own consumption community gardens it is suggested a three type sub-categorization of the initiatives. The proposed variable set to better understand the different organizational structures of the nine cases in this group did not allow one generalization for the researched cases in this cluster. The three identified sub-groups were characterized in two types of governance modes, again a network model for one of them and hybrid governance for the other two sub-groups. Hybrid governance was identified in the initiatives that presented on one hand legal contracts, garden rules and control bodies for the correct functioning of the diverse approaches. On the other hand, the gardeners had enough independence to manage the tasks on the field, get organized to perform common activities and decide on the food portfolio. The combination of these features together with an appropriate communication channel establishes a system that can ensure a continuous relationship among partners. The most prominent feature to classify these initiatives into two sub-categories has to do again with the agents involved in the initiative. Governmental institutions were the promoters in one of the groups while the initiatives pertaining to the other sub-category were created by small entrepreneurs. Similarly, both sub-categories presented various differences in the goals pursued and the difficulties faced. The government-led initiatives aimed for a social and environmental improvement of the

neighbourhoods where the gardens were created. While the entrepreneurial-led initiatives implied primary a monetary component by renting plots and usually together with an educational focus. The first cases experiencing mainly managerial difficulties to coordinate the many participants in the gardens while the latter's biggest constraint faced a lack of participants and/or users' involvement.

Last but not least interesting, the third sub-category found while grouping the initiatives from cluster 1 according to their organizational structure presents again a network governance mode type. Similar to the initiatives from cluster 2 and 3 these models do not present legal contracts and are based on trust among members to participate in the different activities. Moreover, some of the initiatives pertaining to this sub-category have jointly created by the participants involved rules and statutes to ensure the gardens and group functioning. In this case, the leadership of the initiatives is merged between consumers and producer-led as the actors involved perform both roles. Similar to the governmental-led initiatives, the approaches from this sub-category are founded on a strong social and environmental base that aims to build social cohesion, recover degraded urban land and provide a space to learn and interact as primary goals. The participants from these groups ensured that the human organization was the main difficulty to get gardens to evolve or run more smoothly. However, in various cases, the gardens' evolution was constrained by the big struggle required to obtain the rights to use the land.

The information described in the paragraphs above aimed to gain knowledge in the type of organizational structure that was adopted in the researched AFNs according to the three cluster categorization derived from the statistical analysis (section 4.2). In this manner sufficient insights to address the third research sub-question (RQ3) were achieved. RQ3 reads, what are the main organizational elements that characterize the different AFNs in the urban and peri-urban area of Valencia? Subsequently, an answer to this question is collected in this section and schematically presented in table 9 as a summary of the information extracted from appendix VI.

5. Discussion

This chapter contains the thesis discussion which aims to answer the proposed research question based on how empirical findings match or contrast with other AFNs experiences at a European/Japanese level. It was the purpose of this work to investigate whether the AFNs studied in Valencia presented relevant features to contribute to the faster expansion of this type of initiatives.

5.1 Main features of the AFNs in the urban and peri-urban Valencia.

The most relevant findings of the analyses performed in this work follow an attempt to clarify and establish the complete set of features defining each proposed category for the AFNs in the urban and peri-urban area of Valencia.

Cluster 1 collected nine out of the twelve researched community gardens. The mandatory premise in these initiatives was that food was produced for own consumption, thus, food sale being prohibited. The initiatives in this cluster presented the same amount of shared resources than the commercial community gardens; however, in this case, the resource sharing mainly happened at the production stage. Moreover, associative capabilities and trainings were pooled in this cluster but not events and financial investments which were shared in the commercial community gardens. Apart from these features, in this cluster not all initiatives presented elements to group in the same category. The findings suggested a three type sub-categorization of the own consumption community gardens. The sub-categories presented two different types of governance modes, a network model for one sub-group and hybrid governance for the other two sub-groups. Hybrid governance was identified in the initiatives that presented on one hand legal contracts, garden rules and control bodies for the correct functioning of the diverse approaches. On the other hand, the gardeners had enough independence to manage the tasks on the field, get organized to perform common activities and decide on the food portfolio. In addition, another prominent feature to classify the initiatives into three sub-categories next to the governance mode had to do with the agents involved in the initiative. Governmental institutions or small entrepreneurs led the initiatives that presented a hybrid governance model. In contrast, the sub-category with a network governance mode was consumers/producers-led. Furthermore, differences in the goals pursued and the difficulties faced were found among the three sub-categories. The government-led initiatives and the consumer/producer-led were founded on a strong social and environmental base; while the entrepreneurial-led initiatives implied primarily a monetary component and usually together with an educational focus. Next to it, the government-led initiatives experienced mainly managerial difficulties to coordinate the many participants in the gardens. The consumer/producer-led confirmed the human organization as the main difficulty to get the gardens to evolve; in addition, various cases faced big struggles to obtain the rights to use the land. Lastly, the entrepreneurial-led initiatives' biggest constraint was a lack of participants and/or users' involvement.

Cluster 2 included the community gardens based on food transactions for livelihood which represented three out of the twelve researched community gardens. The commercial community gardens were proposed as network governance models with very similar goals and organizational operation modes. The leaders of the initiatives were exclusively producers and they coordinated internally with informal structures that guaranteed joint decision making and joint management. Accordingly, the actors in these initiatives exhibit close relationships among the participants involved in the food transactions, promoted by the existence of channels for product quality feedback and the direct visits of consumers to the field or producers to the selling points. In contrast, the producers in these initiatives lacked on distribution

decision right and they had to adapt to the consumer desires. Email transactions were recognized as the main tool to perform the product orderings and the financial investments as the most characteristic pooled resource. The commercial community gardens displayed the initiatives with the highest resource sharing rate. Resources of all kind were pooled; natural, human, physical, financial and social. The initiatives were characterized by a strong focus on pooling natural, human and social capital. In this cluster were present the only initiatives where money was pooled among the actors involved to contribute to the group development. Besides this, one of the greatest constraints of the commercial community gardens was correlated with the lack of time of the gardeners to multitask as producers, traders and consumer awareness raisers. The consumers' lack of understanding of this market segment constituted one of the main obstacles to the development of these initiatives.

Cluster 3 comprised the consumer groups and they represented one-third of the analysed cases. The consumer groups' initiatives were characterized with a network governance mode as they based on informal arrangements. They did not present any type of legal contracts. In order to ensure the group functioning the management and decisions were collectively performed. However, in contrast to the commercial community gardens where the initiatives were strictly producer-led, in this case, the creators and promoters of the initiatives were the consumers. The consumer groups initiatives were characterised by performing collective purchase of products and not collective production of food thus neither having decision right on the production portfolio. Accordingly, the initiatives in this group did not present pooled natural resources such as land or water yet they only shared resources concerning human and physical capital. The initiatives in this cluster ranged lowest in resource sharing. Besides, the consumer groups presented common goals generally concerning three basic pillars, a) to provide an alternative to the mainstream food system; b) to gain knowledge on the food origin and production systems; and c) to build community. The main constraint found in the cases of this cluster was the little participation of the individuals in the initiatives.

The above paragraphs conclude on the characteristics of the main type of AFNs fitting as sharing economy activities present in the urban and peri-urban Valencia. The information provides an answer to the first part of the central question of this research. The question has been addressed with an innovative perspective in the field of AFNs supported with different types of analyses. The statistical analyses that provided the three clusters classification combined with the descriptive methods resulted in valid information for that purpose.

Comparing the findings on a) the statistical analysis, b) the descriptive analysis to investigate the AFNs as sharing economy systems, and c) the descriptive analysis on the organizational structures according to literature on extended AFNs, various interesting outcomes resulted. Both a) and b) analyses highlighted as paramount to differentiate community gardens (clusters 1 and 2) from consumer groups (cluster 3) the same factor: the timing of collective participation. This referred to the time of production in community gardens versus the performing of collective food orders and purchase in consumer groups. Moreover, the analyses on a) and c) displayed very similar findings when defining cluster 2, the commercial community gardens. The characteristics concerning contracting and relationships, most relevant pooled resources and main constraints were exposed with the same results in both analyses. Hence, obtaining similar results through different analyses reinforces the validity of the research and diminishes the degree of subjectivity on the descriptive analyses.

Summarizing, the information extracted is considered paramount as a step forward to understand the current situation on the sharing economy systems in the agri-food sector. Accordingly figure 14 presents a

flowchart type of design to help visualize various main results of the different methods performed in this work. The flowchart aims to clarify what is happening inside the approaches pertaining to similar AFN groups according to the proposed three cluster categorization. The typology of the AFN initiatives in Valencia that included the features of sharing economy systems is proposed as a comparable classification system for future research.

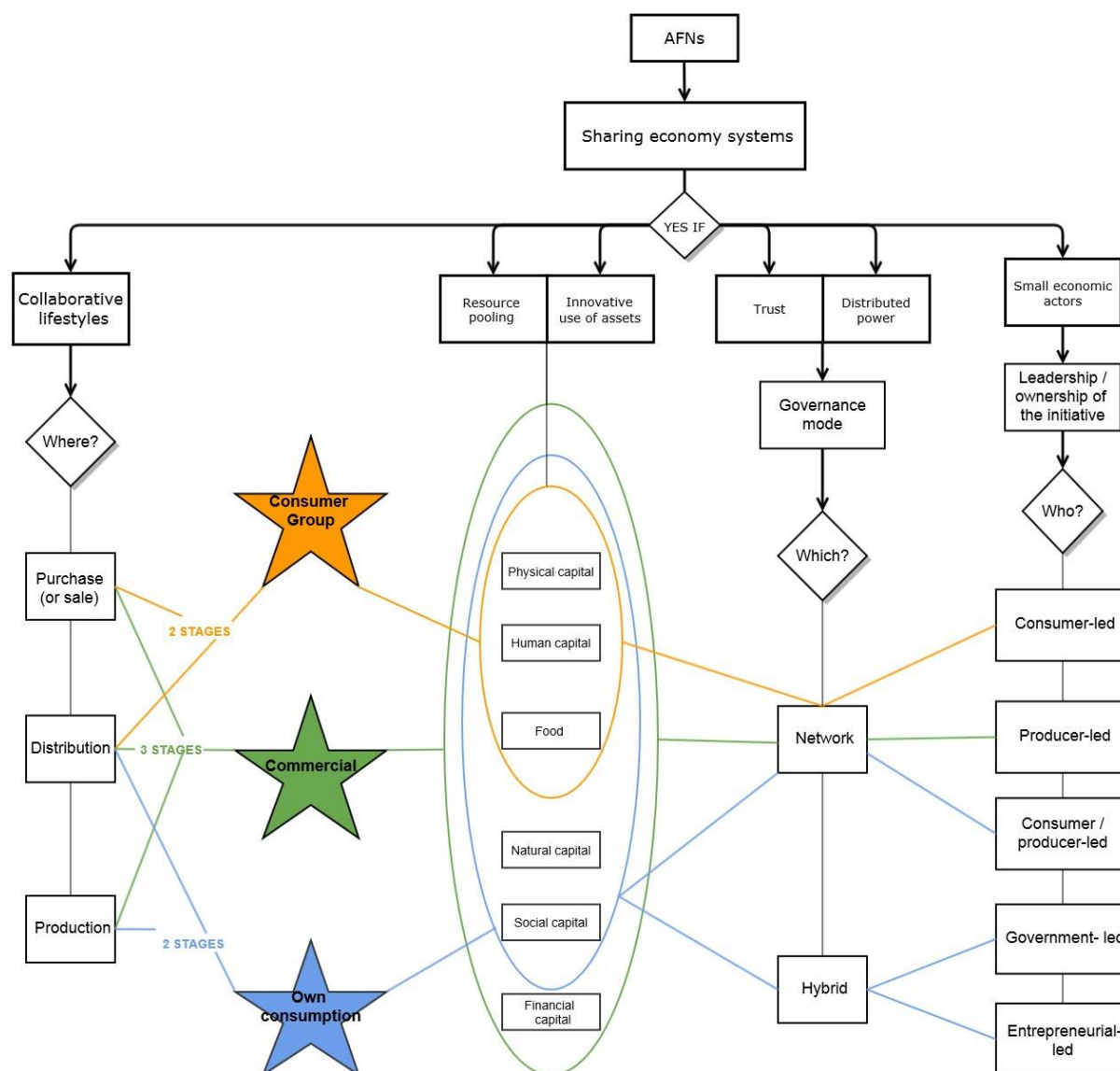


Figure 14. Flowchart of the three cluster AFNs category fitting as sharing economy systems in the urban and peri-urban area of Valencia. The star shapes refer to the three cluster categorization of the consumer groups (orange), own consumption community gardens (blue) and commercial community gardens (green).

5.2 AFNs in Valencia and other European/Japanese models

The findings on the AFNs in Valencia coincide with the literature about the presence of many different approaches to the establishment of the same type of AFNs (Tregear, A., 2011; Renting, H., Marsden, T. K., & Banks, J., 2003; Hatano, T., 2008). For example, many types of community supported agriculture (CSA) have been adopted with completely different forms, varying commonly in production models or the members' participation level (Henderson & Van En, 2007; Schnell, S. M., 2007; Community Supported Agriculture for Europe project, 2013). More specifically, diverse approaches to the CSA initiatives exist in

the UK with a recognised division to differentiate the approaches that depend on the ownership and/or leadership of the initiative (Soil Association report, 2011). Accordingly, the information in this research considered the ownership and/or leadership of the initiative a relevant parameter to the categorization of the AFNs. The different European/Japanese AFNs in this research are categorized in three groups; producer-led initiatives, consumer-led initiatives, and producer-community partnerships. Similarly, the information extracted from the AFNs in Valencia provided the following categorization, producer-led initiatives, consumer-led initiatives, consumer/producer-led, government-led and entrepreneurial-led initiatives. Consequently this parameter is comparable among the AFNs in Valencia and the other European/Japanese models and brings an opportunity to create a portfolio of information.

Furthermore, the AFNs in this research were classified according to the governance modes of hierarchy, market, hybrid and network derived from organizational theories on new institutional economics and transaction cost economics (Williamson O. E., 1991; Ménard C., 2004; Jones et. al., 1997). The mechanisms used to discover which type of governance applied in each approach in the Valencian cases were resource pooling and contracting (Ménard C., 2004). In contrast, the information found on extended AFNs did not provide those parameters. Nonetheless, information was derived from the literature in order to describe the governance modes of the European/Japanese models and provide a general contribution to the understanding of these models. Hence, a comparison among those models and the AFNs in Valencia is possible in this research as a first approximation even if the cases are not considered comparable at the same level of detail.

Overall, the research findings confirm that sharing systems are very different among each other. The distinctions between the models in Valencia and other extended AFNs in the agri-food sector contribute to clarify how these models are different from each other. Table 10 provides a summary on the researched AFNs from organizational structure perspective, on five elements found comparable among AFNs initiatives in Valencia and beyond. The AFNs in Valencia are displayed according to the three clusters classification proposed in this work and subsequently compared with the researched cases in Europe and Japan. However, only two out of the three clusters were found comparable with the information obtained from literature regarding European/Japanese AFNs. This could provide a potential topic for future research.

CHARACTERISTICS	AFNs →	Consumer groups in Valencia	Solidarity Purchase Groups in Italy	Teikei in Japan	Commercial gardens in Valencia	CSA in the UK	AMAP in France	Own consumption gardens in Valencia
Governance mode								
1. Network		YES	YES	YES	YES	YES	NO	YES
2. Hybrid		NO	NO	NO	NO	YES	YES	YES
Leadership / ownership initiative								
1. Consumer-led		YES	YES	YES	NO	NO	NO	NO
2. Producer-led		NO	NO	YES	YES	YES	NO	NO
3. Consumer/Producer partnership		NO	NO	YES	NO	YES	YES	NO
4. Government-led		NO	NO	NO	NO	NO	NO	YES
5. Entrepreneurial-led		NO	NO	NO	NO	YES	NO	YES
5. Consumer/Producer-led		NO	NO	NO	NO	YES	NO	YES
Aim								
1. Create alternative food channels.		YES	YES	YES	YES	YES	YES	YES
2. Environmental concerns		YES	YES	YES	YES	YES	YES	YES
3. Build social cohesion		YES	YES	YES	YES	YES	YES	YES
4. Make profit		NO	NO	NO	YES	YES	YES	YES
5. Educational		NO	YES	YES	NO	NO	NO	YES
Origin								
1. Radical movement		YES	NO	YES	NO	NO	NO	NO
2. Conscious citizens		YES	YES	YES	YES	YES	YES	YES
3. Governmental institution		NO	NO	NO	NO	NO	NO	YES
4. Create a business		NO	NO	NO	YES	YES	YES	YES
Main constraints								
1. Lack of members		YES		YES	YES			YES
2. Lack of participation		YES	YES	YES	YES			YES
3. Resources scarcity		YES	YES		YES	YES		YES
4. Management difficulties		NO	YES	YES	YES			YES
5. Lack of consumer understanding		NO	NO	NO	YES	YES		NO

Table 10. Comparison of the three cluster categorization of the AFNs in Valencia with four extended AFNs in Europe and Japan based in five elements found relevant in this research. The similarities of the consumer groups are highlighted in orange cells; the commercial community gardens in green and the own consumption ones in blue. The blank cells are proposed for further research.

The consumer groups in Valencia provided comparable results to the Solidarity purchase group (SPG) initiatives in Italy and the *Teikei* in Japan. The large academic research on many SPG cases across Italy (Grasseni, et al., 2012; Brunori, et. al., 2012; Cembalo, et. al. 2012) brought a sufficient body of information to provide a detailed comparison among initiatives. Similarly the findings on community gardens in this research are found sufficient for an examination with the CSA and AMAP initiatives. However, the situation found in Valencia suggested a two type categorization, not only commercial but also own consumption type of gardens. Moreover, the large diversity to own consumption community garden approaches found in Valencia did not provide a general categorization based on the analysed features. The specific details that shaped these approaches made it not possible to compare them with the general literature extracted to define other extended AFNs. The community gardens are to date basically categorized as CSA initiatives in the academic research on AFNs (Cicia, et al., 2011; Charles, L., 2011; Soil Association report, 2011). Accordingly it is considered necessary to converge the literature on urban community gardens for own consumption with the general AFNs knowledge. The situation in Valencia suggests that the new spectrum of initiatives behaving as own consumption community gardens are key to the up-scaling of the AFNs that fit as sharing economy activities.

The summary of the differences and similarities between the AFNs in Valencia and in Europe/Japan according to the organizational structure features displayed in table 10 provides a first approximation to analyse these models accordingly. The results just help to clarify how these different models are different from each other based on the organizational features proposed in this work. The comparison of AFNs in table 10 is a contribution that aims to provide a new perspective to future policy-makers and researchers according to the various relevant features found in this work. However, it remains open to discover how the proposed elements of governance, leadership and/or ownership of the initiative, aim, origin and constraints are more or less correlated to each other and affecting the adoption of different structures to AFNs.

6. Conclusion

This chapter presents an overview on how the research findings contribute to the literature on AFNs. Furthermore, recommendations to the actors involved in the initiatives together with suggestions for future research to strengthen managerial and policy implications regarding AFNs and sharing economy activities in the agricultural and food sector are presented.

The findings proved that the researched AFNs in the urban and peri-urban area of Valencia fit as sharing economy activities and corroborate that consumer groups and community gardens are comparable models, yet not likely to cluster in the same category. Both groups presented characteristics in common with the six features identified in literature as intrinsic to the sharing economy systems, yet these characteristics differed largely between both groups. The work performed in this research to categorize the AFNs found that there were many different organizational structures and processes to build these structures within the sharing economy systems. Accordingly, the findings helped to make the sharing economy theory more practical and implementable by illustrating different viable organizational paths to achieve sharing economy systems in the agri-food sector (figure 14).

Likewise, the research contributed from an organizational perspective to the gap on knowledge to understand the internal organization among members in the distinct AFNs (Murtagh, A., 2010; Ohberg, L., & CoDyre, M., 2013). The largest amount of information found when researching the AFNs in Europe and beyond was presented on a rural sociology and/or development perspective (Veen et. al., 2012; Tregear 2011; Holloway et al., 2007). Most of this information tried to discover how the AFN initiatives might be beneficial and offer direct constructions on the behaviour of the actors involved, how and why they differed from the mainstream systems (Cox et al., 2008; Renting et al., 2003). Consequently, the findings of this research complemented the vast literature from rural sociology exploring these phenomena. The case study in Valencia analysing the AFNs at micro-level provided a detailed body of information to build a categorization system based on organizational elements and contributes to aggregate knowledge on the field.

More specifically, the literature tackling the governance mechanisms on AFNs (Lombardi et. al., 2012; Pascucci S., 2010) which provided useful insights to guide this research is now proposed as useful material for comparison with the research findings in this work. Lombardi et. al., (2012) used a similar approach to classify CSA initiatives with a new institutional economics perspective and organizational science arguments. Next to it, another study on the governance structure on food community networks developed an approach that provided elements that supported the findings in this research (Pascucci S., 2010). The approach of Pascucci (2010) described many types of governance structures that were adapted in different food community networks by considering the intensity of the pooling, contracting and competing environment. Similarly, this research provided a case example on AFNs focusing on contracting types and specifically on the type of resources pooled and the stage of sharing. The outcomes of the different papers dealt with similar and complementary organizational elements to assess the governance models. Accordingly, a comparison on this literature might be useful to provide suitable insights to advance the knowledge on this field.

This research work advanced the knowledge on organizational structures of the very different existing AFN models, which was considered paramount to understand the main constraints tackling the different AFNs. It is believed that to contribute to the actors involved in the initiatives and to the society as a

whole, the categorization of the models was a first step for this. By defining covered patterns and categorizing the AFNs a better approach to assess these models was provided to many other interested bodies in and out of the food sector. Overall the research provided interesting contributions from an innovative perspective to overcome organizational constraints limiting the growth of these models. However, this is a learning process and deeper research is needed to learn about the bottlenecks affecting the agri-food sharing economy systems.

6.1 Recommendations

Various recommendations arose from the findings in this research work with the aim of contributing to the managerial and policy implications that affect the development of these types of AFNs. First, for policy makers it might be of interest to notice that the AFNs known as consumer groups and community gardens are a solid phenomenon happening in urban and peri-urban areas of medium/large cities in southern Europe as exemplified by the case of Valencia. The lack of integration of these activities in the policy was detected to have strong negative effects. As an example, some community gardens have squatted degraded urban land to build the initiatives which caused, in various causes, struggles and fights between the land owners and the users. It would be a strategic point to develop solid laws towards the right to use the land in these particular cases since it is often happening. Besides, the lack of support from the governmental authorities causes a twofold effect 1) the existence of food transactions in grey areas of the law and 2) the diminish of the trust or willingness to cooperate of the actors in the AFNs with the governmental institutions as they feel neglected and undervalued. Accordingly, it is necessary to accept and create support to the AFNs as they are emerging and strengthening their position towards the creation of a food system that is different from the main stream one.

Second, the outcomes, together with various evidence from literature, discover some factors that can be translated into recommendations for the actors involved in the initiatives. According to the literature (Murtagh, A., 2010; Ohberg, L., & CoDyre, M., 2013), the high context specificity of the AFN approaches leads to the emergency of many different AFN models with distinct structures and aims in each particular environment. This fact, among others, causes a lack of understanding on how this approaches work and the needs they have. Consequently, it is crucial the contribution of the actors in these initiatives to academic research in order to obtain external support or convenient arrangements between stakeholders that can benefit their development. Besides, the outcomes provide valuable findings on how small differences among initiatives largely facilitate or difficult the group functioning. For example, concerning the consumer groups, it is highly recommended to perform the food transactions through available free software instead of using email groups for that purpose. The groups incorporating a software transaction method showed less managerial difficulties and more efficient performance. Next to it, other findings stated that the consumers of the commercial community gardens, which are many times consumer groups, should consider sharing risks with the producers at some levels. The results showed that the commercial productive gardens' main constraint was the lack of understanding of the consumers and the little time left for the producers to multitask as farmers, distributors and/or sellers. Accordingly, a major involvement from consumers to labour or financial support and/or stronger loyalty could facilitate the establishment and fast development of these types of AFNs known as commercial community gardens in this work.

Lastly, distinct recommendations for future research are proposed at various levels. On the one hand, it is suggested to perform another multiple correspondence analysis and hierarchical clustering on principal components analysis just for the sample on community gardens. In this manner, more accurate information in the results might be obtained, highlighting more precisely concrete variables that shape

the different researched AFNs. Also it is recommended to increase the number of cases, particularly concerning the own consumption community gardens in order to distinguish the many different approaches to a similar initiative. On the other hand, it is recommended to further analyse the specific external environment that surrounds the AFNs in Valencia; meaning governmental bodies and the situation of the market place, together with the counterpart of main stream food consumers and producers. For that purpose it is suggested to test the situation regarding the sharing economy activities in other sectors in order to bring this perspective to the existing activities in the agri-food sector. It might be valuable to focus on existing and succeeding models of sharing economy activities in order to understand the needs, expectations and preferences of the actors involved. The AFNs reach a large variety of actors inside and outside the groups; accordingly, it is suggested for further research to study the networks possibilities among the stakeholders involved. It is believed that to facilitate the managerial component of these models, prototypes to build synergies among them need to be designed. As a last remark, it is suggested for the researchers in this field to be rigorous and strictly methodological in such a way that many different perspectives and methods can be adopted and later compared.

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II. Appendices

Appendix I: Case selection

Appendix II: Interview questionnaire

Appendix III: Cross-case searching analysis of the sharing economy features.

Appendix IV: Variables meaning and coding (Within case study)

Appendix V: Results “R” program

Appendix VI: Within and Cross-case searching analysis of organizational structures

Appendix I: Case selection

Nº	Consumer groups	Location (km to the urban area)	Email / Telephone	Website	Comments	Contact method (times) / answer	Meeting date / interviewee / place
1	Aigua clara	Alberic (45km)	aiguaclara.alberic@gmail.com	http://www.aiguaclara.org/index.html	Producers out of research limits. However urban consumers in Valencia	Email (1) / Negative	
2	Grup consum Vera	Algirós - Ayora (-)	grupconsumvera@gmail.com	http://grupconsumvera.webs.upv.es/ grupconsumvera@gmail.com	The group belongs to the Polytechnic university of Valencia	Email (3) / No reply	
3	Tuta revoluta	Producers in Elche and Castellón (out of Valencia province)	caixaverdures@gmail.com	http://tutarevoluta.wordpress.com/quisom/	Producers out of research limits. However urban consumers in Valencia.	Email (2) / No reply	
4	Eina de Bioconsum	Plicassent (17.5km)	pauet33@yahoo.es	http://nonada.es/2011/11/eina-bioconsum-la-compra-alternativa.html	Producers out of research limits. However urban consumers in Valencia.	Email (2) / No reply	
5	Soc el que menge	Benimaclet (-)	socelquemenge@gmail.com		Direct contact with a member, need to decide in assembly to accept or not the interview.	Email (2) & direct member / No reply	
6	El cabasset d'Arrancapins	Extramurs - Arrancapins (-)	elcabassetdarrancapins@gmail.com	http://elcabassetdarrancapins.blogspot.com.es/		Email (2) / Positive	23 April / group meeting / distribution space
7	V-land Solaris	Benetússer - Huerta Sur (5km)	vland_solaris@yahoo.es	http://vland-solaris.blogspot.com.es http://perinquiets.com/asociacion-vland-solaris-de-benetusser/		Email (3) / No reply	
8	GC Russafa	Russafa (-)	consumorussafa@gmail.com	http://www.consumorussafa.org/	Very busy/active group. The interview was not possible due to time constraints.	Email (2) & direct member/ Positive	No appearance
9	GC Arrels	Ciutat Vella – El Pilar	arrelsdelaterra@y			Email (2) /	

		(-)	ahoo.es			No reply	
10	GC Patraix	Patraix (-)	grupo.consumo.patraix@gmail.com	http://grupoconsumopatraix.wordpress.com/presentacion-2/	Two different interviews with two group members.	Email (1) / Positive	21 March / Maria 28 March / Ventura / distribution space
11	Tramuntana	Ciutat Vella – El Pilar (-)	sodepaupvjust@pangea.org	http://sodepaupaisvalencia.org/node/12		Email (1) / Positive	8 April / Martina / distribution space
12	La Mandràgora	Ciutat Vella – El Carmen (-)	lamandragora@ourproject.org			Email (2) / No reply	
13	GC La Xiri	Xirivella (4.9 km)	grupoconsumolaxiri@gmail.com		Three months to get an answer. Very late response.	Email (3) / Positive	
14	GC Per l'horta	Jesús - Sant Marcel·lí (-)	m.rosaramon3@gmail.com			Email (1) / Positive	25 March / Rosa / Neighbourhood
15	GC Pimienta Negra	L'Olivereta (-)	963 834 440 ecologicos@cgtvalencia.org	http://eco.cgtvalencia.org/	Couldn't reach it.	Wrong email	
16	GC Algirós	Algirós (-)	grup.consum.algirros@riseup.net			Email (1) / Positive	25 March / group meeting / distribution place
17	GC Burjassot Godella		grupdeconsum@14m.org.es		Doubts of existence.	Wrong email	
18	La Mateta de Fenoll	No address / home pick ups	sanz.josep@gmail.com			Email (2) / Positive	16 April / Kike / Working space
19	El camp de Morvedre pren el mercat	Poblats marítims - El Cabañal (-)	lavalldesegoprene lmercat@gmail.com	http://valencia.cnt.es/2012/06/grupo-de-consumo-morvedre-pren-el-mercat/	Direct contact with several members, need to decide in the assembly to accept or not the interview.	Email (2) & direct member / No reply	
20	GC La Morera	Benimaclet (-)	marisantostorro@gmail.com		Email found through a contact (Fermín)	Email (2) / No reply	

Table I. List of the consumer groups in the urban and peri-urban Valencia and the selection process with the reviewed cases highlighted in grey.

Nº	Community gardens	Location (km to the urban area)	Email / Telephone	Website	Comments	Contact method (times) / answer	Meeting date / interviewee / place
1	Huertos urbanos vecinales	Benimaclet (-)	huerto.benimaclet@gmail.com	http://www.huertosurbanosbenimaclet.com/	Instant response	Email (1) / Positive	8 March 2014 / Many gardeners / In the gardens on a community work day
2	L'hort de la Barraca	Almácer (7.3 km) Huerta Norte	lhort@lhortdelabarraca.es	http://www.lhortdelabarraca.es/huerto-urbano-ocio-colectivo-valencia.html https://www.facebook.com/reddehuertosurbanosdevalencia#!/hortdelabarraca/info		Email (2) / No reply	
3	Bicihuertos	Meliana (6.6 Km) Huerta Norte	bicihuertos@gmail.com / 633512077	http://bicihuertos.wix.com/huertosvalencia#!/bicihuertos/c21r	Instant response	Email (1) / Positive	11 March 2014 / garden entrepreneur (Pedro) / Garden site
4	Huertos del Turia	Manises (8 km) Huerta Oeste	huertosdelturia@hotmail.com / 656380915 or 961523541	http://www.huertosdelturia.com/huertos-del-turia/	Instant response	Email (1) / Positive	20 March / garden's entrepreneur – owner (Rosa) / In the gardens
5	Huertos Compartidos Tutelados de Torrent	Torrente (9 km) Huerta Oeste	huertoscompartidos@gmail.com / 699553446	http://www.larazon.es/detalle_normal/noticias/1626606/torrent-pone-en-marcha-el-primer-huerto-escue http://www.huertoscompartidos.com/noticia-sobre-huertos-compartidos-tutelados-de-torrent-en-informativos-de-canal-9/	Cancelled project	Email (1) / Positive	24 March 2014 / garden' entrepreneur (Santi Cuerda) / Skype meeting
6	Horts Municipals - La Coscollosa	Godella (5 km) Huerta Norte	lacoscollosa@gmail.com	http://www.datocapital.com/HORTS-MUNICIPALS-LA-COSCOLLOSA-ASOC.html http://coscollosa.wordpress.com/	Instant response & total predisposition	Email (1) / Positive	27 March 2014 / gardener (Rosana) / In the gardens
7	Huertos Sociales Burjassot	Burjassot (7 Km) Huerta Norte	medioambiente@ayto-burjassot.es	http://www.burjassot.org/Default.aspx?tipo=2&ids=4720	Instant contact with the council technician, not the gardeners.	Email (1) / Positive	2 April 2014 / council technician (Daniel) / In environmental office at the council
8	CSOA l'Horta Benimaclet	Benimaclet (-)	horta@lists.riseup.net	http://horta.noblogs.org/	Snowball sample contact. Interview possible through friend connection	Email (2) & direct contact / Positive	23 April 2014 / two gardeners / In a cafe at the university
9	Camp Okupat de Campanar	Campanar (-)	campetcampanar@gmail.com	http://mural.uv.es/ibaci/campanar/a.html		Email (3) / No reply	
10	Huerto city	Ciudad Vieja - El	agroecologia.valenc	http://www.sostenibleycreativa.org/la-	Community	Email (2) /	22 April 2014 / two

		Carmen (-)	ia@sostenibleycractiva.org	red-en-los-medios/red-sostenible-y-creativa/la-red-en-los-medios/huerto-city	garden in a urban balcony	Positive	gardeners / In the balcony garden
11	L'Hort de Carmen	Alcácer (15 Km) Huerta Sur	hortdecarmen@gmail.com / 685014100 (Raúl)	http://hortdecarmen.escurios.com/?page_id=99 & http://www.hortdecarmen.es/		Email (1) & telephone / Positive	15 April 2014 / initiator and member (Raúl & Francesca) / In the garden
12	Hort Ecològic Pachamama	Alacuás (7 km) Huerta Oeste	ecohuertapachamama@gmail.com	http://ecohuertapachamama.wordpress.com/%C2%BFque-es-ecohuerta-pachamama/		Email (3) / No reply	
13	Parque Bosque Mediterraneo	Albal (8km) Huerta Sur	info@naturaycultura.com 961255152	http://chechurecursosnaturales.blogspot.com.es/2013/03/el-bosque-mediterraneo-de-albal-valencia.html	Reply to postpone the interview, no time availability. No more contact.	Email (1) / Positive answer - Email (2) / No reply	
14	Huerto Ca Favara	Patraix (-)	avvfavara@gmail.com / 961330761			Email (1) / Positive	21 April 2014 / Gardener / Onsite
15	Avv Marítimo Ayora - garden		aavv.maritimo.ayora@gmail.com		Project not approved to start	Email (1) / Positive	
16	Terra i Canya	Paterna (5 Km) Huerta Oeste	terraicanya@gamail.com	http://terraicanya.wordpress.com/hort-tandera/	Snowball sample contact	Email (2) / Positive	17 April 2014 / three gardeners/gardens & agroecologic market
17	Plataforma d'aturats de Montcada	Montcada	plataformaaturatsmontcada@hotmail.com / 637804685			Email (2) / No reply	
18	Racó de l'Anell (horts reinserció)	Pueblo nuevo - Racó de l'Anell (2,4 Km) Huerta Norte	bonagent@bonagent.org / 963301477 Joan: 610802787			Email (3) / No reply	
19	Benimaclet Reinserció		Pedro: 625866332 (Contacto Marta)			Telephone / No reply	
20	L'Aixada com eixida	Picassent (17.7 Km) Huerta Sur			Snowball sample contact	Direct contact / positive	23 April 2014 / Two gardeners / Onsite

Table II. List of the community gardens in the urban and peri-urban Valencia with the reviewed cases highlighted in grey.

Appendix II: Interview questionnaire

Blocks	Interview questions	Indicators
Origin, Aim and Scope	<p>1. How did the consumer group / community gardens emerged? What were the first movements? With what objectives did the group start? Did you need any financial investment? How did you arrange the basic resources? Did you make any previous partnership?</p> <p>2. Who started the initiative? Are you one of the pioneers?</p> <p>3. What are the main objectives of the group? Do you follow any principles in the group?</p> <p>4. Which sectors of action do you reach?</p>	<p>(f) Origin / Leadership or ownership initiative</p> <p>(g) Aim and Scope of the initiative</p>
Resources available & ownership status.	<p>5. Food → How, by whom and/or for whom food is it produced?</p> <p><u>6. Natural capital</u> Land → Is it available in quality and quantity? How much land do you have? With what kind of Tenure? (Absolute Property / Borrowed / Rented / Occupied) If renting or borrowing, what is the length of the lease? Water → Is it available in quality and quantity? Have you invested in the irrigation installation?</p> <p><u>7. Physical capital</u> Seeds / Fertilizers / Agricultural Equipment (Hand Tools or any Special Tools, clothing or other equipment) / Irrigation system → Are they available in quality and quantity? To whom they belong to? Are they for collective use? Buildings / Vehicle transport → Are they available? If yes, To whom they belong to? Are they for collective use? What is the deal to use them? Technology → Do you have inventory control, data distribution or exchange? Do you perform transactions through specific software or with email? Do you communicate by email or any other website or blog? Do you use the Internet to advertise the group?</p> <p><u>8. Human capital</u> People → Are there any specialists involved in the team? (Experts in agriculture / management / community organization) Work → By whom and how is the labour performed? (Members / volunteers / employees)</p> <p><u>9. Financial capital</u> What is your main source of financial capital? How do you generate revenue? - From transactions, Do you trade goods for money? Do you provide trainings or other services to generate income? - Comes from members' fees - Grants - Through loans from members - From local fundraising - From public sector contracts Have you ever received any external funding?</p>	<p>(a) & (d) Resources pooling & ownership status</p>

	<p><u>10. Social capital</u></p> <p>Is there a focus on improving the skills of the members? Formal or informal trainings? Events with qualified staff or volunteers? Tutorial classes?</p> <p>Is there any educational focus directed to the society in general? Do you held events to attract more participants or consumers? (Farmers' Markets / Conferences / Public Debates / Trade solidarity / Magazines economy or books)</p> <p>Do you count with any type of external support?</p>	
Contracting & Relationship types	<p>11. Which set of actors is involved in the group?</p> <p>12. How do you become a member? Are there any requirements to enter the group? Are there any rules set? (A minimum time of commitment or membership / a year or a season) Do you have to perform any special activities?</p> <p>13. Are there any set of contracts? Formal or informal? Oral or written?</p> <p>14. How does engagement work? (Paying upfront fees / Engaging some of your time / With contracts or informal trust-based models)</p> <p>15. How is the group structured? Is it divided into teams with different activities or tasks? If so, which ones?</p> <p>How are the different teams and activities organized? (Rotating activities / Regular meetings / Fixed tasks)</p> <p>16. Is there a formal or an informal planning?</p> <p>17. By whom and how are the decisions made within the group?</p> <p>18. Do you have control and / or coordination methods? If yes, of what kind? How do they work? Who composes them (volunteer / elected people)?</p> <p>19. What is the status of the organization? (Legal entity for a trading business / A voluntary organization / Non-Profit)</p> <p>20. Do you keep a close relationship with the actors involved (consumer or producers / the members of the group)?</p> <p>Is there any risk shared between consumer and producers? Advance payments or voluntary aid?</p> <p>Are there any practices to ensure that the actors needs are satisfied?</p>	<p>(e) Stakeholders involved</p> <p>(b) Contracting</p> <p>(c) Member's requirements</p>
Constraints	<p>21. Which would you say are the main problems that threaten or limit the development of your organization?</p> <p>22. Are there any internal conflicts? Is it difficult to manage or coordinate the group?</p> <p>23. How would you rate the level of commitment in general? Is there a lack of participation to meet the goals of the groups?</p> <p>24. If it's a business, is it profitable? In case of negative answer, what do you think are the main causes?</p>	(h) Main constraints

Table III. Interview questionnaire model.

Appendix III: Cross-case searching analysis of the searing economy features

Consumer groups	Cabasset d'Arrancapins	Mateta de Fenoll	Algirós	Per l'horta	Tramuntana	Patraix
Sharing economy features						
Collaborative lifestyles	Collective food ordering, distribution & purchase. Participatory group. Networking.	Collective food ordering, distribution & purchase. Networking.	Collective food ordering, distribution & purchase. Participatory group. Community focus, losses are shared. Networking.	Collective food ordering, distribution & purchase. Networking.	Collective food ordering, distribution & purchase. Networking.	Collective food ordering, distribution & purchase. Participatory group. Networking.
Distributed power	Joint management & decision making.	Every family orders to one distributor. Joint management & decision making.	Assembly character. Joint management & decision making.	Assembly character. Joint management & decision making.	Volunteers.	Assembly decision making. Joint management.
Innovative and more efficient utilization of the assets	Email food ordering & communication. Networking (to make common orders, share information). Common distribution & meeting point.	Email food ordering & communication. Shared and rotating distribution point (changes among the members private houses).	Food ordering trough Internet software. Email communication. Common distribution & meeting point. Networking for ordering	Email food ordering. Common distribution & meeting point.	Food ordering trough Internet software. Email communication. Common distribution point.	Email food ordering & communication. Common distribution & meeting point.
Trust	Based on compromise and trust among the participants. Flexible to make orders.	Network of trust among distributors (they don't know them)	The member's requirement is commitment.	Member's requirement is interest.	On the distributor about the food origin and production.	Member's compromise to participate. Based on trust.
Pool of resources and services is shared	Food information. Shared meeting and distribution space. Direct communication channel producer-consumer & visits.	Food information. Close Relationship among the consumers. Information network. Shared pick up point.	Food information. Shared meeting and distribution space. Computer software. Visit to producers.	Food information. Shared meeting and distribution space. Visits to the producers.	Shared meeting and distribution space. Computer software.	Food information. Shared meeting and distribution space. Personal relation w. the producer and Visits.
Small economic actors	Small & local producers. Neighbourhood families.	Familiar group of friends	Neighbourhood families. local producers.	Interested families. local producers.	Members of an association & friends	Interested families. local producers.

Table IV. Features of consumer groups as sharing economy activities in the urban and peri-urban area of Valencia.

Community	Huertos sociales Burjassot -	Horts municipals, La	Huertos del Turia – Private	Bicihuertos - Private	Huertos comunitarios
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gardens Sharing economy features	Municipal garden Allotment (Social garden)	Coscollosa Municipal garden Allotment (Social gardens)	garden Allotment (Leisure garden)	garden Allotment (Leisure garden)	tutelados Torrent – Private initiative (School garden) failed project
Collaborative lifestyles	Collective food production. Networking (w. similar gardens). Composting together. Associations & citizens.	Collective food production. Networking (w. similar gardens). Associations & citizens.	Collective food production.	Collective food production.	Collective food production & collective learning.
Distributed power	Self-managed association.	Between the gardens board & the council environment technician.	Fixed coordinator but garden decisions stay on the participants.	Fixed coordinator but garden decisions stay on the participants	Vertical power: Project initiators, field supervisor and participants.
Innovative & more efficient utilization of the assets	Recover degraded urban land. Common areas (for meetings & info points).	Land.	Land. Advertising. Communication & information flow through Internet, phone or WhatsApp.	Land. Website as marketing strategy.	Land protection & improvement. Farm biodiversity. Media attention. Website for marketing.
Trust	Gardeners without agricultural experience. Based on commitment.	Gardeners without agricultural experience. Based on compromise	Gardeners are given the key of the fence of the property.	Faith on the gardeners to go work the land.	Faith on the participants to commit to the project.
Pool of resources and services is shared	Food. Land. Water. Irrigation canals. Grant. Technical/agricultural support. Training courses. Common areas. Composting. Bicycle parking. Communication boards. Associative experience. Multiple actors capabilities.	Food. Land. Water. Irrigation canals. Communication boards. Technical/agricultural support. Training courses. Associative experience. Multiple actors capabilities.	Food. Land. Water. Irrigation system. Tool shed. Porch. Tables. Children playground. Orange trees. Orange juice maker. Workshops for kids. Collect oranges. Sponsor an orange tree. Services for the ground. Treatments. Technical/agricultural support. Information flow, blog & online garden group. Seeds exchange.	Food. Land. Water. Irrigation system. Hand tools. Tool shed. Shadows. 3 Tables. Lockers. Toilets. Earthworm fertilizer. Mechanical machinery. Agricultural assistance. Trainings, many agricultural workshops.	Food. Land. Water. Irrigation system. Hand tools. Agricultural technician. Agro ecology lectures. Training.
Small economic actors	Associations. Neighbours and the municipality.	Associations. Neighbours and the municipality.	Family business	Two friends business.	Social entrepreneur project.

Community gardens Sharing economy features	Urban neighbourhood gardens (Benimaclet) Allotment (social garden)	CSOA gardens. Per l'horta (Benimaclet) Allotment (social garden)	Huerto Ca Favara (Patraix) (Social garden)	Huerto city (El Carmen) (Community urban balcony garden)
Collaborative lifestyles	Collective food production. Collective investments & conditioning work. Community work. Associations and citizens.	Collective food production. Collective investments & conditioning work. Community work. Maintain sanitation. Fundraising.	Collective food production.	Collective food production. Community work. Collective investments & Fundraising. Collective food distribution.
Distributed power	Neighbourhood association & Management garden board (volunteers). Rules for membership & statutes.	Decisions taken in assembly way. Working groups with different tasks.	Very informal group.	Coordinators assigned on natural hierarchy, based on awareness, engagement, training & enthusiasm.
Innovative & more efficient utilization of the assets	Recover degraded urban land. Profit common areas. Build social cohesion. Dynamic project.	Recover degraded urban land. Build social cohesion. Dynamic project.	Recover degraded urban land. Build social cohesion. Dynamic project.	Balconies as garden spaces to grow food.
Trust	Commitment. Gardeners w. no agriculture exp. No timetables. Based on compromise	Community involvement. Respect the garden principles. Commitment to participate. Vote of trust.	On the neighbours as the field is in middle of the suburb and not fenced.	Participants are required to be interested and committed to the project.
Pool of resources and services is shared	Food. Land. Water. Irrigation canals. Common areas. Parking. Multiple actors capabilities: Technical/ agricultural support; Training courses (organized internally). Associative experience.	Food. Land. Water. Irrigation canals. Tools. Common areas. A house. Multiple actors capabilities: Exchange of agriculture learning.	Food. Land. Water. Drip irrigation. Seedlings. Agriculture workshop.	Food. Land. Water. Seeds, seedlings. Pots. Tools. Trainings. Info magazine.
Small economic actors	Associations & citizens from the neighbourhood.	Associations & citizens from the neighbourhood and outside.	Two persons.	Open to everyone. All interested volunteers.

Community gardens	L'hort de Carme (Alcàsser) (Community productive garden)	Terra i Canya (Paterna) (Community productive garden)	L'Aixada com eixida (Picassent) (Community productive garden)
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Element	Variable	Meaning	Coding
Sharing economy features			
Collaborative lifestyles	Collective food production. Community work. Fundraise. Collective distribution & selling. Network w other producers and seed exchanges.	Collective food production. Collective investments. Collective distribution & selling. Looking for synergies w producers in the area.	Collective food production. Collective investments. Collective distribution & selling.
Distributed power	Among the members involved.	Among the 5 members participating.	Among the 5 members participating. Assembly way.
Innovative & more efficient utilization of the assets	Recover degraded land. Enhance biodiversity. Recipes to help eating seasonable. Crow funding. Marketing technology, online store. Many selling points.	Project to employ people without work. Networking w other producers to share knowledge & experiences. Many selling points.	Recover unused land. Enhance biodiversity. Diverse commercial outlet: Vegetables, soap & cosmetics, health & hygiene products, bread & beer. Many selling points.
Trust	Lands rented by word. Participants involved without contracts and committed to participate.	Participants without contracts and committed to grow the fields and run it day by day.	Owners borrow the land. Among the participants involved.
Pool of resources and services is shared	Food. Land. Water. Seeds, seedlings. Workshops in agroecology, macrobiotic cuisine, trainings, kids activities. Voluntary help, labour.	Food. Land. Water. Irrigation canals. Seeds. Seedlings. Greenhouse. Vehicle. Multiple actors capabilities.	Food. Land. Water. Drip irrigation. Seeds. Seedlings. Manure. Tools. Vehicle. Trailer. A mule. Multiple actors capabilities.
Small economic actors	2 persons working in the field and 1 more to give exit to the produce.	5 individuals. The support of the unemployment platform.	5 individuals.

Table V. Features of community gardens as sharing economy activities in the urban and peri-urban area of Valencia.

Appendix IV: Variables meaning and coding (Within case study)

Resource pooling	Natural capital		
	- Land	Yes if available to share among the actors involved.	Land; No land
	- Water	Yes if available to share among the actors involved.	Water; No water
	Human capital		
	- Information exchange	Yes if there are practices to exchange information among members. (i.e. meetings or media tools)	Information exchange; No information exchange
	- Agricultural knowledge	Yes if there are practices to share agricultural knowledge among members.	Agricultural knowledge; No agricultural knowledge
	- Associative capabilities	Yes if there are members managing the group associative component.	Associative capabilities; No associative cap
	- Collective Production	Yes if it is the members of the group collectively participate in the production.	Collective production; No collective production
	- Collective Distribution	Yes if the members of the group collectively participate in the product distribution.	Collective Distribution; No Collective Distribution
	- Collective Purchase	Yes if the members of the group collectively purchase the products.	Collective Purchase ; No Collective Purchase
	- Community work	Yes if all members are involved in performing community tasks.	Community work; Not community work
	Physical capital		
	- Production assets	Yes if physical asset (machinery, tools, etc.) is shared among members.	Production assets; No Production assets
	- Distribution/Purchase space	Yes if the members have a common space to distribute and purchase the products.	Distribution/Purchase space; Not distribution/Purchase space
	- Technology	Yes if members share software or media tools to facilitate interactions (i.e. software orderings, Facebook page, blogs, emails, etc.).	Technology; Not Technology
	Financial capital		
	- Financial investments	Yes if money is pooled together by all the actors of the group.	Financial investments; Not Financial Invs
	- External funding	Yes if it external money has been provided to create/propel the initiative.	External funding; No External funding
	- Shared Risk	Yes if there are practises to collectively assume the losses of the actors involved in the group (i.e. advance payments, share produce losses).	Shared Risk; Not Shared Risk
Trainings Events External support		Yes if the members participate in trainings or they organise them.	Trainings; No trainings
		Yes if members participate or organize conferences, meetings or similar.	Events; No events
		Yes if external help / capabilities are or have been provided (i.e. agricultural technicians, management support, etc.)	External support; No External support
		Yes if the members decide on the production tasks (i.e. on product portfolio, quantity, quality)	Production decision right; Production decision right
		Yes if the members decide on the distribution tasks (i.e. they decide on a day and time, the mechanism, etc.)	Distribution decision right; No Distribution decision right
Open group			
Open group		Yes if it's open to any person without limits or exceptions.	Open group; Not Open group

Contracting / Relationships	Legal status	Yes if they are legally registered (i.e. as an association)	Legal status; Not Legal status
	Formal contracts	Yes if the contracts have legalistic form with specific requirements, rules & ways of functioning.	Formal contracts; Not Formal contracts
	Member's requirements	Yes if specific economic or social characteristics are required to be part of the group.	Member's requirements; No Member's requirements
	Fees	Yes if there is a required payment to become a member	Fees; No fees
	Limited membership	Yes if there is stipulated a maximum time to belong to the group.	Limited membership; No Limited membership
	Waiting list	Yes if exists a waiting list to be part of the group.	Waiting list; No Waiting list
	Commitment	Yes if informal arrangements happen among the actors involved (i.e. compromise to participate in different tasks)	Commitment; No Commitment
	Direct visits	Yes if members periodically visit the farms, the producers or vice versa, the producers visit consumer's distribution/purchase site.	Direct visits; No Direct visits
	Product quality feedback	Yes if there are channels to give feedback on the produce quality (i.e. face to face, websites, blogs, etc.)	Product quality feedback; No Product quality feedback
	Formal certification	Yes if the produced or purchased products are officially certified.	Formal certification; No Formal certification
	Participatory certification	Yes if the produced or purchased products have ensured their quality based on reputation or trust among actors.	Participatory certification; No Participatory certification
	Direct communication /distribution channel.	Yes if there is no intermediary between producers and consumers.	Direct communication; No Direct communication
	Fixed order/deliver	Yes if the order/delivery of products is designated in a fixed place and/or time (weekly, monthly, every 3 months, etc.)	Fixed order/deliver; No Fixed order/deliver
	Personal relationships	Yes if there is a periodic procedure to meet among the actors involved in the group.	Personal relationships; No Personal relationships
Operational mode	Control mechanisms	Yes if there are formal practises to control the producers or the members participation.	Control mechanisms; No Control mechanisms
	Trust	Yes if the actors engage together in informal ways, the group is based on commitment and compromise.	Trust; No Trust
	Reputation	Yes if the actors engage together based on previous references or because they already knew each other.	Reputation; No Reputation
	Network interactions	Yes if the group is linked with other actors outside of the group to realize common activities. (i.e. common transactions; participate in network coordinators, etc.)	Network interactions; No Network interactions
	Committees / Task groups	Yes if the internal organization runs with committees or task groups.	Committees / Task groups; No Committees / Task groups
	Assemblies	Yes if the internal organization runs with assemblies.	Assemblies; No Assemblies
	Email transactions	Yes if the product orders runs with emails.	Email transactions; No Email transactions
	Software transactions	Yes if the product orders is done with specific software.	Software transactions; No Software

	Email group Management board Fixed management External coordination	Yes if there members take decisions through email platforms. Yes if there is group of actors in charge of the management and to take decisions. Yes if the actors in charge for the management and organization do not rotate. Yes if there is an external person or organism involved in the management and decisions of the group.	transactions Email group; No Email group Management board; No Management board Fixed management; No Fixed management External coordination; No External coordination
Scope	Food transactions Own consumption Products diversity Multiple scopes	Yes if the food is sold or purchased. Yes if the food is produced compulsorily for own consumption Yes if the production or purchase of products goes beyond food goods. Yes if the group organises activities that go beyond production or consumption practices (i.e. educational activities or trainings, events or conferences.).	Food transactions; No Food transactions Own consumption; Not Own consumption Products diversity; No Products diversity Multiple scopes; No Multiple scopes
Constraints	Low participation Insufficient resources Lacking product supply Expensive options Irregular purchases Organizational difficulties Lacking awareness Discontinuity	Yes if the number the participants is constraining the development of the group (i.e. not enough people to manage the production site, not enough people to reach a minimum amount of orders, not enough support, etc.). Yes if the unavailability of land or water or other physical resources has constrained the group evolution. Yes if needed basic products cannot be found or purchased. Yes if the products available to purchase are not compatible with the family economy. Yes if the members of the group or the consumers are not stable in their orders or purchase. (i.e. not periodic orders, not loyal to the producers, absent in holiday periods...) Yes if the actors state to have internal difficulties to manage the group (i.e. not proper purchase/selling tools, not sufficient time to find producers/consumers, not enough experience to propel the group). Yes if the consumers lack of understanding on the organic market segment or the producers limited knowledge on organic practices hinders the development of the group. Yes if actors low participation rate difficulties the group evolution (i.e. members little time availability).	Low participation; No Low participation Insufficient resources; Not Insufficient resources Lacking product supply; Not Lacking product supply Expensive options; No Expensive options Irregular purchases; No Irregular purchases Organizational difficulties; Not Organizational difficulties Lacking awareness; Not Lacking awareness Discontinuity; No Discontinuity

Land use	Own land Borrowed land Rented land Occupied land	Yes if the land belongs to the actors using it. Yes if the land is lent by the owners to the users. Yes if the land is temporary rented in exchange of a nominal fee. Yes if the land is occupied without any official permit.	Own land; Not Own land Borrowed land; Not borrowed land Rented land; Not rented land Occupied land; not occupied land
Actors involved	Individuals Associations Governmental institutions Small entrepreneurs Homogeneous profile	Yes if the members involved in the group are individual citizens. Yes if there associations involved in the group. Yes if there governmental institutions involved in the group. Yes if the group is created by small entrepreneurs. Yes if a specific type of members can be identified in the group	Individuals; No Individuals Associations; No Associations Governmental institutions; No Governmental institutions Small entrepreneurs; No Small entrepreneurs Homogeneous profile; No Homogeneous profile

Appendix V: Results “R” program

I. The MCA

Results of the 3 first components of the MCA on the community gardens and consumer groups.

\$`Dim 1`			
\$`Dim 1`\$quali			
	R2	p.value	
Participatory.certification	0.8347256	1.183874e-07	
Food.transactions	0.8347256	1.183874e-07	
Own.consumption	0.8347256	1.183874e-07	
Collective.Production	0.6793037	2.600309e-05	
Collectively.Purchase	0.6793037	2.600309e-05	
Formal.contracts	0.6657834	3.649359e-05	
Control.mechanisims	0.6657834	3.649359e-05	
Fixed.order.deliver	0.6621103	3.992212e-05	
Irregular.purchases	0.6284920	8.716616e-05	
Land	0.5974315	1.692730e-04	
water	0.5974315	1.692730e-04	
External.coordination	0.5677705	3.053757e-04	
Distribution.Purchase.space	0.5628974	3.352324e-04	
waiting.list	0.5244922	6.771052e-04	
Production.decision.right	0.5062899	9.278562e-04	
Trainings	0.4796934	1.443304e-03	
Email.transactions	0.4655681	1.810068e-03	
Products.diversity	0.4485582	2.360951e-03	
Small.entrepreneurs	0.4174683	3.768348e-03	
Collective.Distribution	0.4160102	3.849831e-03	
Lacking.product.supply	0.4043012	4.563961e-03	
Associations	0.3930807	5.358125e-03	
Management.board	0.3889084	5.683869e-03	
Multiple.scopes	0.3661264	7.800028e-03	
Direct.visits	0.3646117	7.963257e-03	
Trust	0.3293065	1.276638e-02	
External.support	0.3292931	1.276862e-02	
Governmental.institutions	0.2952619	1.977332e-02	
Limited.membership	0.2952619	1.977332e-02	
Agricultural.knowledge	0.2718489	2.648529e-02	
Insufficient.resources	0.2381744	3.990674e-02	
Members.requirements	0.2222586	4.826467e-02	

\$`Dim 1`\$category			
	Estimate	p.value	
Not own consumption	0.5055564	1.183874e-07	
Food transactions	0.5055564	1.183874e-07	
Participatory certification	0.5055564	1.183874e-07	
Collectively Purchase	0.4837333	2.600309e-05	
Not Collective Production	0.4837333	2.600309e-05	
No control mechanisims	0.4788952	3.649359e-05	
Not formal contracts	0.4788952	3.649359e-05	
Fixed order/deliver	0.4530649	3.992212e-05	
Irregular purchases	0.4414130	8.716616e-05	
No water	0.4386710	1.692730e-04	
No Land	0.4386710	1.692730e-04	
No external coordination	0.4422424	3.053757e-04	
Distribution/Purchase space	0.4634450	3.352324e-04	
No waiting list	0.4473558	6.771052e-04	
No Production decision right	0.4038262	9.278562e-04	
No Trainings	0.3856356	1.443304e-03	
Email transactions	0.3872456	1.810068e-03	
Products diversity	0.3930822	2.360951e-03	
Small entrepreneurs	0.3792152	3.768348e-03	
Collective Distribution	0.3660555	3.849831e-03	
Lacking product supply	0.4231543	4.563961e-03	
No Associations	0.4172411	5.358125e-03	
No management board	0.4629751	5.683869e-03	
No multiple scopes	0.3369076	7.800028e-03	
Direct visits	0.3543964	7.963257e-03	
Trust	0.3368016	1.276638e-02	
No External support	0.3175332	1.276862e-02	
No limited membership	0.4783756	1.977332e-02	

Limited membership	-0.4783756	1.977332e-02
Governmental institution	-0.4783756	1.977332e-02
External support	-0.3175332	1.276862e-02
No trust	-0.3368016	1.276638e-02
No direct visits	-0.3543964	7.963257e-03
Multiple scopes	-0.3369076	7.800028e-03
Management board	-0.4629751	5.683869e-03
Associations	-0.4172411	5.358125e-03
Not lacking product supply	-0.4231543	4.563961e-03
Not Collective Distribution	-0.3660555	3.849831e-03
Not Small entrepreneurs	-0.3792152	3.768348e-03
No products diversity	-0.3930822	2.360951e-03
No email transactions	-0.3872456	1.810068e-03
Trainings	-0.3856356	1.443304e-03
Production decision right	-0.4038262	9.278562e-04
waiting list	-0.4473558	6.771052e-04
No Distribution/Purchase space	-0.4634450	3.352324e-04
External coordination	-0.4422424	3.053757e-04
water	-0.4386710	1.692730e-04
Land	-0.4386710	1.692730e-04
No irregular purchases	-0.4414130	8.716616e-05
No fixed order/deliver	-0.4530649	3.992212e-05
Control mechanisms	-0.4788952	3.649359e-05
Formal contracts	-0.4788952	3.649359e-05
Not Collectively Purchase	-0.4837333	2.600309e-05
Collective Production	-0.4837333	2.600309e-05
Own consumption	-0.5055564	1.183874e-07
No food transactions	-0.5055564	1.183874e-07
No participatory certification	-0.5055564	1.183874e-07

\$`Dim 2`

\$`Dim 2`\$quali

	R2	p.value
Distribution.decision.right	0.7538590	2.994614e-06
Product.quality.feedback	0.5911684	1.923730e-04
Production.assets	0.5618045	3.422731e-04
Lacking.awareness	0.4824195	1.380713e-03
Financial.investments	0.4408260	2.657693e-03
Fixed.management	0.4013807	4.759731e-03
Agricultural.knowledge	0.3880412	5.753777e-03
External.support	0.3222417	1.399831e-02
Collective.Production	0.2914883	2.073625e-02
Collectively.Purchase	0.2914883	2.073625e-02
Direct.visits	0.2868999	2.196526e-02
Land	0.2667247	2.821111e-02
water	0.2667247	2.821111e-02
Production.decision.right	0.2546062	3.271733e-02
Assemblies	0.2540685	3.293205e-02
Information.exchange	0.2422563	3.799417e-02

\$`Dim 2`\$category

	Estimate	p.value
Distribution decision right	0.4612894	2.994614e-06
No product quality feedback	0.3661814	1.923730e-04
No Production assets	0.2968143	3.422731e-04
Not lacking awareness	0.2917298	1.380713e-03
Not Financial investments	0.2696640	2.657693e-03
No fixed management	0.2508825	4.759731e-03
No Agricultural knowledge	0.2466784	5.753777e-03
No External support	0.2247931	1.399831e-02
Collectively Purchase	0.2267665	2.073625e-02
Not Collective Production	0.2267665	2.073625e-02
No direct visits	0.2249747	2.196526e-02
No water	0.2097592	2.821111e-02
No Land	0.2097592	2.821111e-02
No Production decision right	0.2049386	3.271733e-02
Assemblies	0.2047221	3.293205e-02
No Information exchange	0.2614965	3.799417e-02
Information exchange	-0.2614965	3.799417e-02
No assemblies	-0.2047221	3.293205e-02
Production decision right	-0.2049386	3.271733e-02
water	-0.2097592	2.821111e-02
Land	-0.2097592	2.821111e-02
Direct visits	-0.2249747	2.196526e-02
Not Collectively Purchase	-0.2267665	2.073625e-02
Collective Production	-0.2267665	2.073625e-02
External support	-0.2247931	1.399831e-02
Agricultural knowledge	-0.2466784	5.753777e-03
Fixed management	-0.2508825	4.759731e-03
Financial investments	-0.2696640	2.657693e-03
Lacking awareness	-0.2917298	1.380713e-03
Production assets	-0.2968143	3.422731e-04
Product quality feedback	-0.3661814	1.923730e-04
No Distribution decision right	-0.4612894	2.994614e-06

\$`Dim 3`

\$`Dim 3`\$quali

	R2	p.value
Associative.capabilities	0.6631375	0.0002856902
Community.work	0.4317847	0.0030468048
Fixed.management	0.4290112	0.0031760207
Assemblies	0.4190619	0.0036810606
Commitment	0.4081796	0.0043152118
Homogeneous.profile	0.3884730	0.0057188660
Associations	0.3732304	0.0070741835
Small.entrepreneurs	0.2676045	0.0279075516
Events	0.2453343	0.0366091689
External.funding	0.2324454	0.0427441263
Personal.relationships	0.2245485	0.0469680156
Management.board	0.2233554	0.0476394322

\$`Dim 3`\$category

	Estimate	p.value
Associative capabilities	0.4702070	0.0001174005
Community work	0.2320119	0.0030468048
No fixed management	0.2180392	0.0031760207
Assemblies	0.2210225	0.0036810606
Commitment	0.2374170	0.0043152118
Not Homogeneous profile	0.2495337	0.0057188660
Associations	0.2445892	0.0070741835
Not Small entrepreneurs	0.1826515	0.0279075516
Events	0.1659117	0.0366091689
External funding	0.1930231	0.0427441263
Personal relationships	0.1617903	0.0469680156
Management board	0.2110740	0.0476394322
No management board	-0.2110740	0.0476394322
No personal relationships	-0.1617903	0.0469680156
No External funding	-0.1930231	0.0427441263
No Events	-0.1659117	0.0366091689
Small entrepreneurs	-0.1826515	0.0279075516
No Associations	-0.2445892	0.0070741835
Homogeneous profile	-0.2495337	0.0057188660
No Associative capabilities	-0.4722530	0.0053861022
No commitment	-0.2374170	0.0043152118
No assemblies	-0.2210225	0.0036810606
Fixed management	-0.2180392	0.0031760207
Not Community work	-0.2320119	0.0030468048

II. The HCPC.
The χ^2 -test

Variable	<i>p</i>-value
Collective.Production	0.0001
Collectively.Purchase	0.0001
Distribution.decision.right	0.0001
Participatory.certification	0.0001
Food.transactions	0.0001
Own.consumption	0.0001
Fixed.order.deliver	0.001
Irregular.purchases	0.001
Land	0.001
Water	0.001
Production.decision.right	0.001
Distribution.Purchase.space	0.001
Product.quality.feedback	0.001
Email.transactions	0.002
Direct.visits	0.003
Lacking.product.supply	0.01
Agricultural.knowledge	0.01
Production.assets	0.01
External.support	0.01
Small.entrepreneurs	0.01
Trainings	0.01
Formal.contracts	0.01
Control.mechanisims	0.01
External.coordination	0.01
Products.diversity	0.01
Lacking.awareness	0.01
Information.exchange	0.02
Waiting.list	0.03
Software.transactions	0.04
Collective.Distribution	0.05
Financial.investments	0.05

TableVI. Participation of variables in the partition of the clusters.

Cluster 1 (n=9)	Mod.Cla (%)	Global (%)	p-value	v-Test
Own consumption	100	50	<0.001	4.25
No food transactions	100	50	<0.001	4.25
No participatory certification	100	50	<0.001	4.25
No irregular purchases	100	55.55	<0.001	3.71
No fixed order/deliver	100	55.55	<0.001	3.71
No email transactions	100	61.11	<0.001	3.25
No products diversity	100	66.66	<0.001	2.83
External coordination	66.66	33.33	<0.001	2.83
Control mechanisms	66.66	33.33	<0.001	2.83
No direct visits	100	66.66	<0.001	2.83
Formal contracts	66.66	33.33	<0.001	2.83
Not Collectively Purchase	100	66.66	<0.001	2.83
Collective Production	100	66.66	<0.001	2.83
Not Small entrepreneurs	66.66	33.33	<0.001	2.83
Trainings	77.77	44.44	<0.001	2.65
Waiting list	55.55	27.77	<0.001	2.43
No Distribution/Purchase space	100	72.22	<0.001	2.43
Production decision right	88.88	61.11	<0.001	2.22
Not Collective Distribution	66.66	38.88	<0.001	2.22
Water	88.88	61.11	<0.001	2.22
Land	88.88	61.11	<0.001	2.22
Not lacking product supply	100	77.77	<0.001	2.04
Insufficient resources	44.44	22.22	<0.001	2.04
No Software transactions	100	77.77	<0.001	2.04
No product quality feedback	100	77.77	<0.001	2.04
Associations	44.44	22.22	<0.001	2.04
Not insufficient resources	55.55	77.77	<0.001	-2.04
No Associations	55.55	77.77	<0.001	-2.04
No Production decision right	11.11	38.88	<0.001	-2.22
Collective Distribution	33.33	61.11	<0.001	-2.22
No Water	11.11	38.88	<0.001	-2.22
No Land	11.11	38.88	<0.001	-2.22
No waiting list	44.44	72.22	<0.001	-2.43
No Trainings	22.22	55.55	<0.001	-2.65
No external coordination	33.33	66.66	<0.001	-2.83

No control mechanisms	33.33	66.66	<0.001	-2.83
Not formal contracts	33.33	66.66	<0.001	-2.83
Small entrepreneurs	33.33	66.66	<0.001	-2.83

Cluster 2 (n=3)	Mod.Cla (%)	Global (%)	p-value	v-Test
No Distribution decision right	100	16.66	0.001	3.23
Product quality feedback	100	22.22	0.004	2.81
Lacking awareness	100	33.33	0.024	2.24
Direct visits	100	33.33	0.024	2.24
Email transactions	100	38.38	0.042	2.02
Financial investments	100	38.88	0.042	2.02

Cluster 3 (n=6)	Mod.Cla (%)	Global (%)	p-value	v-Test
Collectively Purchase	100	33.33	<0.001	4.03
Not Collective Production	100	33.33	<0.001	4.03
No Production decision right	100	38.88	<0.001	3.55
No Water	100	38.88	<0.001	3.55
No land	100	38.88	<0.001	3.55
Distribution/Purchase space	83.33	27.77	<0.001	3.38
Not own consumption	100	50	<0.01	2.83
Food transactions	100	50	<0.01	2.83
Participatory certification	100	50	<0.01	2.83
No External support	100	50	<0.01	2.83
No Production assets	100	50	<0.01	2.83
No Agricultural knowledge	100	50	<0.01	2.83
Lacking product supply	66.66	22.22	<0.01	2.81
No Trainings	100	55.55	0.01	2.53
No Information exchange	50	16.66	0.02	2.24
Irregular purchases	83.33	44.44	0.03	2.12
No multiple scopes	83.33	44.44	0.03	2.12
Fixed order/deliver	83.33	44.44	0.03	2.12
Not lacking awareness	100	66.66	0.04	1.96
No external coordination	100	66.66	0.04	1.96
No control mechanisms	100	66.66	0.04	1.96
Not formal contracts	100	66.66	0.04	1.96

Small entrepreneurs	100	66.66	0.04	1.96
No irregular purchases	16.66	55.55	0.03	-2.12
Multiple scopes	16.66	55.55	0.03	-2.12
No fixed order/deliver	16.66	55.55	0.03	-2.12
Information exchange	50	83.33	0.02	-2.24
Not lacking product supply	33.33	77.77	<0.01	-2.81
No Distribution/Purchase space	16.66	72.22	<0.001	-3.38

Table VII. Organizational elements that characterize the three clusters obtained from the hierarchical analysis. **Mod.Cla**, the proportion of individuals of this cluster having the modality; **Global**, the proportion of individuals having the modality in the whole dataset; **v-Test**, the contribution of the modality into a category.

Appendix VI: Within and cross case searching analysis of organizational structures

AFNs	N.	t.	Governance mode ^{(a)(b)}	Leadership initiative	Stakeholders involved ^(c)	Aim	Main Constraints	Key features	Origin
Cabasset d'Arrancapins	20	2.5	Network Not legal status. No contracts. Participatory group. Organized in committees. Joint management & decision making. Based on trust and compromise.	Consumer-led initiatives	Community of consumers, local farmers and/or local/close by producers.	Work towards another food model: 1. Seeks for an alternative to the capitalist system; 2. Tries to find other ways to organize and build community; 3. Potentiate small & local producers.	Need of members and participation. Lack of products. Not reaching the minimums to get some products.	Strong social focus.	15 M
Mateta de Fenoll	12	5.5	Network No contracts. Organized in a network of families responsible for ordering to the distributors. Based on trust and compromise.	=	Families and distributors.	Replace industrial products for local ones.	Lack of products. Expensive options.	Changes are not wanted. Similar members.	Group of friends
Algiros	18	2	Network No contracts. Participatory group. Organized in commissions that perform the different tasks. Assembly character. Based on trust and compromise.	=	Community of consumers, local farmers and/or local/close by producers.	Work towards controlled and responsible food consumption. 1. Seeks for an alternative to the large food surfaces. 2. Tries to build community; 3. Potentiate small & local economies.	Lacking on sufficient members to reach the minimums to get some products.	Commitment to participate.	15 M
Per l'horta	14	2.5	Network No contracts. Participatory group. Organized in rotating tasks. Assembly character. Based on trust and compromise.	=	=	To recover the land. Reconnect the people with the environment.	Organization is costly. Little time. Need of members and products. Need to promote closer relationships.	Very little and basic organization.	2 families from the neighbourhood
Tramuntana	15	6.5	Network No contracts. Participatory group. Task performance done by volunteers.	=	Community of consumers and local/close by farmer/producer	Seeks for an alternative to the main stream food model. Potentiate small & local economies.	More members and participation. Little time. Regularity in the product orders.	No one from the neighbourhood	From an existing solidarity group.
Patraix	19	2.5	Network	=	Community of	The main goal is food	More members and	Strong social	15 M

	No contracts. Participatory group. Organized in rotating committees. Assembly character. Sovereign decision. Based on trust and compromise.		consumers, local farmers and/or local/close by producers.	sovereignty. Support agriculture of proximity knowing where the food comes from, how has been produce and why.	participation. Regularity in the product orders. Expensive options. Monitoring suppliers.	focus.
Consumer groups	Network	Consumer-led initiatives	Community of consumers, local farmers and/or local/close by producers.	1. Create an alternative to the main stream food system 2. Potentiate small and local producers 3. Build community 4. Food sovereignty. 5. Reconnect people & land.	Lack of members and participation. Lack of products. Orders irregularities.	15 M (half) Form conscious consumers (half)

Table VIII. Characteristics shaping the organizational structure of the researched consumer groups in Valencia.

AFNs	N.	t.	Governance mode ^{(a)(b)}	Leadership initiative	Stakeholders involved ^(c)	Aim	Main Constraints	Key features	Origin
Municipal garden Burjassot	300	2	Hybrid Legalistic contracts and garden rules. The city hall is a control institution. However the gardens are self-managed by the participants. There is volunteer board for management & communication.	Governmental institution (City hall)	Citizens/producers/consumers and council technicians.	1. To give the opportunity to the citizens to work the land. 2. To recover degraded urban land.		Political interest and external funding. Social garden, access determined by economic situation.	Environmental office city council
La Coscollosa, Godella	300	3	Hybrid Legalistic contracts and garden rules. The city hall is a control institution. However the gardens are self-managed by the participants. There is volunteer board for management & communication.	Citizen-led (producers & consumers)	Citizens/producers/consumers and council technicians.	1. To give the opportunity to the citizens to work the land. 2. To connect the people from the neighbourhood.	Resource scarcity. Management difficulties to coordinate many participants.	Social garden, access determined by lot. External funding, from the city hall.	Social group
Leisure organic gardens Turia	90	2.5	Hybrid Legalistic contracts and garden rules. The owner controls the gardens and works as agricultural technician. The	Private	Owner & the gardeners.	1. Provide small plots for users to enjoy own consumption gardening. 2. Promote vegetable consumption in children.	Make users understand the need to fertilize the soil. The users time constraints.	Leisure garden. Resources investment and marketing focus. Continuous	Family business

			users have autonomy to manage their plots and share the food.					agricultural info exchange w users. Workshops for kids.	
Bicihuertos	100	2	Hybrid Legalistic contracts and garden rules. The owner controls the gardens and works as agricultural technician. The users have autonomy to manage their plots and share the food.	Private	Owner & the gardeners.	1. Make profit. 2. Provide small plots for users to enjoy own consumption gardening.	Great competition, many similar initiatives arising. Lack of users involvement.	Leisure garden. Resources investment and marketing focus.	Two friends business plan.
School garden Torrent	18	0.6	Hybrid Legalistic contracts and garden rules. Agricultural technician in charge of supervision and coordination. The gardeners independently work the field.	Private	Land owner, entrepreneurs, a pedagogy association and the gardeners.	1. To encourage small subsistence gardens. 2. To provide training to future gardeners.	Lack of participants and resources. Failure on management and project coordination.	School garden. Media attraction and sponsors. Failed project.	Experiment to launch a school garden.
Neighborhood gardens Benimaclet	300	2	Network or hybrid Rules and statutes of the gardens jointly developed by the gardeners. A management board of volunteers ensures the functioning of the diverse tasks.	Citizen-led (producers & consumers)	The neighbourhood association and the users / gardeners	1. Recover degraded land. 2. Social cohesion. 3. Associate and work in community.	Tremendous fight to obtain the permits/rights to use the land.	Collective investments and labour. Dynamic initiative with many projects.	A group of neighbours fighting to recover abandoned land.
Gardens of the CSOA	250	0.85	Network No contracts. Participatory group. Assembly character. Collective common tasks performance. Based on trust and compromise.	Citizen-led (producers & consumers)	The users / gardeners.	1. Recover degraded land. 2. Create social cohesion.	Human organization, main difficulty is participation. The gardens require continuity.	Occupied land. Fundraising events.	Gardens as a way to attract locals to the social initiative.
Huerto Ca Favara	2	1	Network No contracts. Extremely informal group. Collective tasks performance.	Citizen-led (producers & consumers)	The users / gardeners.	1. Recover degraded land. 2. Create social cohesion. 3. Promote biodiversity. 4. Learning gardening and composting.	No infrastructure or organization. Lack on empowerment. Need participation, fix goals & support.	Social garden where learning is the objective. Just 2 actors involved. Resources donated. Very deteriorated lot. Squatted land.	A group of neighbours interested to recover abandoned land.

Huerto city	10	1. 85	Network No contracts. Based on trust and compromise. No assemblies or rotating tasks. Based on natural hierarchy.	Citizen-led (producers & consumers)	The users / gardeners.	1. Propel people to grow food. 2. Encourage urban gardens & spread this model of production 3. Space to learn & interact 4. Offer values on food sovereignty, gardening, healthy & conscious eat. 5. biodiversity.	Transition period as some initiators of the project have left.	Educational initiative to empower people. Donated materials. The garden opens 1h a week.	From The sustainable & creative network (Aim: Empowerment of people)
L'hort de Carmen	3	15	Network No contracts. Based on trust and compromise	Producer-led initiatives	Farmers and consumers.	1. Promote short supply channels 2. Food sovereignty. 3. Enhance biodiversity. 4. Recover local varieties. 5. Practices alternative economies out of the capitalist model (exchanges, social coin) 5. Spread agroecology (by doing workshops)	Give commercial exit to the products (no time to be farmers & sellers) Lack of consumer understanding. The control of the accounts is out of control. Required help w finances.	Abandoned solar & got land use rights. Many selling points (ind, cons groups, markets, in their own store). Store as a teaching point & space to recruit people. Volunteer help & crowd funding projects.	Looking for an area to cultivate and start producing
Terra i Canya	5	0. 6	Network No contracts. Strong commitment to the daily work on the fields.	Producer-led initiatives	Farmers and consumers.	1. Promote short supply channels 2. Food sovereignty. 3. Enhance biodiversity. 4. Recover local varieties.	Searching for consumers. Lack of consumer understanding on the product.	Focus to make synergies with similar producers from the area.	Took over a project initiated by unemployed platform
L'aixada com eixida	5	2. 5	Network No contracts. Based on trust and compromise	Producer-led initiatives	Farmers and consumers.	1. Create an alternative economic pillar. 2. Offer all basic products. 3. Enhance biodiversity.	Participation. No time for synergies to ensure loyal consumers. No money for legal.	Diverse commercial outlet(soaps, bread)	land owner wanted to give exit to unused land

Table IX. Characteristics shaping the organizational structure of the researched community gardens in Valencia.